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ABSTRACT

The New Jersey Center for Educational Technology (CET) has three basic priorities: to disseminate information, to coordinate effort, and to reorient school personnel. In its dissemination efforts, CET has published a series of "consumer" newsletters which define the assets and liabilities of different educational media. In addition, it is sponsoring state-wide conferences for the purpose of identifying promising educational uses of technological capability, and employing strategically placed model centers to demonstrate how various types of technology can be effectively integrated with instruction. CET is also involved in coordinating already existing media programs and is planning a survey of media resources in New Jersey schools. The Center also intends to initiate appropriate preservice and inservice education programs for teachers and administrators to orient them toward the use of educational technology. (Appended are releases about CET-sponsored conferences and examples of CET newsletters.) (SH)

ED 062809

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EDUCATION & WELFARE
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CET

Center for Educational Technology, Trenton, N.J.

1972

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C. 1

CENTER FOR EDUCATIONAL TECHNOLOGY (CET)

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CENTER FOR EDUCATIONAL TECHNOLOGY *

The New Jersey Center for Educational Technology has three basic priorities: to disseminate information, to coordinate effort, and to reorient school personnel. Informational and experiential resources will be shared in several ways. Technical reports will be distributed in consumer protection-type newsletters, in the hope of preventing further diffusion of widely used devices which have proved to be faulty in performance or whose manufacturer's price levying is suspect.

Strategically placed demonstration centers will serve as models for educators interested in seeing first-hand what technology has already been integrated into the educational function and which specific devices and learning materials have elicited pupil, as well as teacher, satisfaction. Presently, there are schools and teachers all over the state groping for answers to problems they believe to be isolated and unique to their own circumstances. CET will attempt to establish, or reinforce existing, but tenuous, channels of communication between like-minded districts and teachers so unnecessary duplication can be minimized and motivated, active individuals can give each other support, and relevant advice. Schools requiring assistance in initiating, developing, or evaluating programs will also be referred to available consultants.

The last, but probably the most important charge of CET is to initiate appropriate preservice and inservice training for teachers and continuing educational workshops for administrators and professionals. It is vital to overcome both the fear many people have of machines and the overconfidence many others place in them as the panacea for all of education's ills. No machine can totally correct for an insensitive or uninformed teacher or administrator. Good hardware and software is costly; it is a waste of scarce financial resources to make large expenditures on equipment if the staff, which will create the context in which it will be complyed, are ruled by inaccurate preconceptions. The machines cannot be effective in improving educational quality if the school's on-going operations, its organizational structure and its staff's attitudes and objectives have not been truthfully re-evaluated and systematically redefined. Technology, superimposed upon failing methods will only automate the status quo; machines can only be as good as the human beings who put them to use. The literature on educational media is filled with a myriad of hasty encounters with poorly selected or poorly utilized equipment. It is the purpose of CET to prevent that.

* Definition - EDUCATIONAL TECHNOLOGY: The art of selecting and integrating subject matter, method, and equipment to achieve an efficient, relevant, and purposeful learning environment. Educational technology is not machinery, although machinery may help students learn more effectively and free teachers from routine activities for more creative teaching. Taking into account the characteristics of the learner, the nature of the content, and the variety of teaching strategies, material, and devices available, educational technology involves the design and implementation of a flexible learning system.

The new Center for Educational Technology is working to dispel the myth that the multimedia teaching is flashy, complicated, and a substitute for the human teacher. Funded under a special 1970 act of the State Legislature providing for centers for Educational research and development, CET was developed by the Office of Program Development, Division of Research, Planning, and Evaluation, of the State Department of Education. Mr. Joseph DiStefano, former national sales and marketing manager for media with Holt, Rinehart, and Winston, is now the director of the Center.

Commenting on the role of the Center in improving educational quality in the State, Mr. DiStefano stressed that the tendency to regard educational hardware as an educational panacea is as erroneous as unjustified fears of "teaching machines." "Technology is really people using a variety of tools to release themselves for creative attention to student needs," he said.

During its first six months of operation, the Center's activities have reflected three basic priorities: information, coordination, and orientation. The Center for Educational Technology has already published three in a series of "consumer" newsletters, defining the assets and liabilities of cassettes, videotape recorders, and cable television. It is also sponsoring state-wide conferences for the purpose of identifying promising educational uses of technological capability. The first conference on September 30 at the Cherry Hill Inn, Cherry Hill, brought together cablecasters, legislators, and educators to discuss cable television's potential as an educational medium. A second, 747 "Jumbo Jet" Education Conference is scheduled for April 21 and 22. A third conference to be announced, will be held sometime in May, focussing on educational television. Jumbo Jet will demonstrate what can be done with media by teachers and students alike. It will feature forty-seven projects illustrating seven primary objectives.

CET is employing strategically placed model centers to demonstrate how various types of technology can be effectively integrated with instruction. Educators interested in first-hand experience with successful media approaches can visit CET's Satellite Centers in Paramus (Paramus Educational Development Center, Moorestown (High School/Intermediate School Media Centers Complex), and Pitman (Educational Improvement Center). CET also provides technical assistance and consultant services.

One of the Center's functions involves the coordination of already existing media programs. It provides a central focus for many agencies and organizations in the State interested in the advancement of technology in education. CET is currently cooperating with State Department of Education personnel to identify and disseminate information on media-oriented Title II and Title III projects. CET maintains similar liaison with exemplary school media programs distinct from Title II and III. This year the Center intends to explore possible linkage with community and state colleges. Plans for a survey of media resources in New Jersey schools have been formulated. It is expected that this assessment will help determine CET's future priorities.

Media orientation is perhaps the most important objective of the Center for Educational Technology. Acting on the belief that machines can only be as good as the human beings who put them to use, the Center intends to initiate appropriate preservice and inservice training for teachers and coninuing educational workshops for administrators and professionals. CET's first media-production workshops on film-making were held last summer. Mr. DiStefano says that the Center will continue to develop media training programs to meet the needs of educators.

APPENDIX A

STATE OF NEW JERSEY OFFICIAL NEWS RELEASE

DEPARTMENT OF EDUCATION

Telephone: Area Code 609 — 292-4132

292-4432

February 15, 1972

FOR RELEASE Immediately

STATEWIDE CONFERENCE SET

ON EDUCATIONAL TECHNOLOGY

TRENTON--A two-day statewide Educational Technology Conference will be held by the State Department of Education's Center for Educational Technology April 28 and 29 at the Burlington County Vocational and Technical School in Mt. Holly.

The theme of the conference is "747 -- Jumbo Jet Age in Education." The 747 is used in the theme since the conference will focus on seven basic objectives of educational technology and 47 projects in operation in various parts of the state which reflect the objectives.

State Education Commissioner Carl L. Marburger will be the keynote speaker at the opening session of the conference. Joseph DiStefano, director of the Center for Education Technology, will preside at the conference.

According to DiStefano, the aim of the conference is to make school administrators and teachers more knowledgeable about educational technology and more aware of its potential uses in the schools. The kinds of projects that will be displayed and discussed include television, learning resource centers, innovative uses of audio-visual equipment, and multi-media systems.

The Center for Educational Technology was established last year with the aim of making media-related instruction an effective

From its inception, the Center has endeavored to coordinate already existing media programs throughout the state. In so doing, it cooperates with many agencies and organizations interested in the advancement of technology in education. CET is currently working with State Department of Education personnel to disseminate information regarding media-oriented Title II and Title III projects. It is performing a similar service for other excellent school media programs distinct from Title II and Title III.

The Center hopes to interface with institutions of higher education and is currently exploring possible linkage with community and state colleges. A survey of media resources in the state, which will help determine CET's future priorities, is now in the planning stage.

Mr. DiStefano views the orientation of school personnel in the effective use of media as perhaps the most important objective of the Center for Educational Technology. "Technology is really people using a variety of tools to release themselves for creative attention to student needs," he said. Consequently, the Center intends to initiate appropriate preservice and inservice training for teachers and will sponsor continuing educational workshops for administrators and other professionals. Media production workshops will help educators acquire expertise in the development of media-related instructional materials. The first--on the subject of film-making--was held last summer and more are projected.

DiStefano stresses that hardware alone provides no educational panacea. Future directions of the project will be determined by the Center for Educational Technology's ultimate objective: making media an integral part of the teaching and learning experience.

FIRST 747 EDUCATIONAL TECHNOLOGY CONFERENCE

Elementary and secondary schools and colleges from throughout New Jersey will participate in a "747" Jumbo Jet Age in Education conference slated for April 28 and 29 at Burlington County Vocational-Technical School, Mount Holly. Local educators plan to use multi-media displays to describe their successful projects involving educational technology. The 747 Conference, sponsored by the New Jersey Center for Educational Technology, is the first such effort coordinated by the State Department of Education.

The conference will feature forty-seven outstanding projects from throughout the state reflecting seven basic objectives of educational technology. It will include television and computer applications, learning resource centers, new staffing patterns, and individualized instruction. Other displays will focus on a variety of media-related approaches to vocational training, early childhood, and adult education. Representatives from state and regional improvement and technology centers will discuss their role in supporting promising educational developments in New Jersey's schools. Several exhibitors are also presenting working models for effective management of school time and resources.

State Education Commissioner Carl L. Marburger will keynote the opening session, to be held at noon on Friday. The conference will continue until 5 p.m. on Friday, with special seminars on Instructional, Educational, and Cable Television, Computers in Management and Instruction, PPBS (Planning, Programming, Budgeting System), and Management by Objectives held from 2-4 p.m. On Saturday, the 747 Conference will be open from 9 a.m. to 1 p.m. Ongoing seminars dealing with Learning Resource Centers, Programmed Instruction, Individualized Instruction and Modular Scheduling, and Multi-Media Systems will run from 10 a.m. until noon.

The Center for Educational Technology is one of several centers for educational research and development funded under a special 1970 act of the State Legislature. It was developed under the auspices of the Office of Program Development, Division of Research, Planning, and Evaluation, of the State Department of Education. Mr. Joseph DiStefano, former national sales and marketing manager for media with Holt, Rinehart, and Winston, is the now director of the Center.

FOR $2 TAKE OUR "747" ON A ROUND TRIP TO A BETTER WORLD

UNPACK YOUR MIND. Education is taking a trip on April 28 and 29, 1972. You'll be going into the future. A future that's as close as tomorrow's classroom. The Center For Educational Technology invites you to the state's first Educational Technology Exposition. If you wait for the second one, you'll be missing the boat.

Called "747", it'll present 7 in-depth seminars and 47 examples of the most innovative Educational Technology projects in New Jersey. Keynote address by Commissioner Carl L. Marburger. You'll see how Educational Technology is making the teacher more effective - and the learning experience more profitable for the student. "747" will *not* be a runway cluttered with hardware. It'll be a launching pad of ideas and methods that represent the best vehicles for the best instruction possible.

"747"—New Jersey's first Educational Technology Exposition. April 28-29, 1972 at the Burlington County Vocational-Technical High School, Woodland Road, Mount Holly, New Jersey (near exit #5, New Jersey Turnpike). 11 a.m. to 6 p.m. Friday—9 a.m. to 1 p.m. Saturday.

FRIDAY (2-4 p.m.)
Instructional, Educational & Cable TV ( )
Computers in Management and Instruction ( )
PPBS (Planning Programming Budgeting System) and Management by Objectives ( )

SATURDAY (10 a.m.-noon)
Learning Resource Centers ( )
Programmed Instruction and Modular Scheduling ( )
Multi-Media Systems ( )

TAKE ME ALONG. I'll board "747" on (check one) Friday, April 28 ( ) Saturday, April 29 ( ). I've enclosed my $2 fare, and will attend the *one* (1) seminar I've checked. If this seminar is fully subscribed, I've *circled* a second choice. (Registrants can only attend one seminar per day). All 47 exhibits, however, may be observed by registrants.

Name_____

School or System_____

Location_____

Mailing Address_____
Street City, State Zip

Position_____

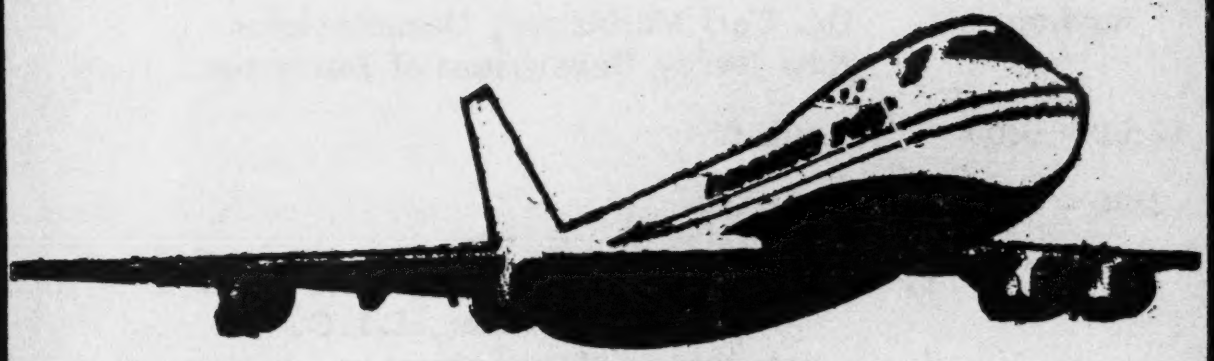
MAIL REGISTRATION BY APRIL 21 and ALL INQUIRIES TO:

Joseph DiStefano, Director
Center for Educational Technology
N.J. Department of Education
Office of Program Development
Division of Research, Planning and Evaluation
1000 Spruce Street, Trenton, N.J. 08638

... Make checks payable to EIC-CET

Reprinted from
NJEA REVIEW, April, 1972

CET * 747



EDUCATIONAL

TECHNOLOGY

CONFERENCE

New Jersey's

FIRST ANNUAL "EDUCATIONAL TECHNOLOGY CONFERENCE"

Sponsored by

New Jersey Center for Educational Technology

PROGRAM

Friday, 28 April 1972

12:00 noon - Auditorium

Welcome: John Ossi, Superintendent
Burlington County Vocational Technical School

Introduction: Joseph DiStefano, Director
Center for Educational Technology

Keynote: Dr. Carl Marburger, Commissioner
New Jersey Department of Education

12:00 - 6:00 Exhibits

2:00 - 4:00 Seminars

1. Instructional, Educational and Cable TV - Room 406
   J. Stephen Shaffer, E.I.C.
2. Computers in Management and Instruction - Rm.305
   King Gillen, IBM
3. PPBS and Management by Objectives - Room 705
   Edmond Weiss, Government Studies & Systems
   Dr. David Weischadle, Trenton Public Schools

"Films" - Auditorium

Saturday, 29 April 1972

9:00 - 1:30 Exhibits

10:00 - 12:00 Seminars

4. Learning Resource Centers - Room 305
   Gabriel Massaro, Educational Development Center
   Betty Torrecelli, Mahwah Public Schools
   Thomas O'Rourke, Wharton Public Schools

5. Programmed Instruction - Room 406
   George Schlenker, Montclair Public Schools
6. Individualized Instruction, Flexible Staffing - Rm. 705
   Anthony Conte, N.J. Department of Education
   Shirley Gillette, Channel 13
   Arnold Tversky, Dover Public Schools
7. Multi-Media Systems - Room 309
   Joseph DiStefano, Center for Edu. Tech.
   Dan DeSantis, E.I.C.

"Films" - Auditorium

Concept - Exhibitor	Booth No.
Closed Circuit TV - Glassboro Public Schools	1
Learning Resource Center - Moorestown Public School	2
Community Television-CATV-Willingboro Public Schools	3
Non-Print Drug Education Program-Burlington Twp. Public Schools	4
Modular Scheduling - Paul VI High School	5
Modular Scheduling - Cinnaminson Public Schools	6
Micro-wave TV - Union Twp. Public Schools	7
Computers For Instruction - Parsippany Troy-Hills	8
Multi-Media, Innovative Programming - Woodbridge Public Schools.	9
Adult Education - Montclair State College	10, 11
Learning Resource Center - Holy Spirit High School	12
Differentiated Staffing - E. Windsor Regional Public Schools	13
Multi-Media, Innovative Programming - Shore Regional High School	14
Closed Circuit TV - Franklin Lakes Public Schools	15
Differentiated Staffing - Camden Public Schools	16
LRC - Project Plan - Ridgewood Public Schools	17, 18
Occupational Resource Center-N.J. Division of Vocational Education	19
Computer Managed Busing - N.J. Division of Field Services	20
Management by Objectives - Educational Improvement Center	21
Learning Resource Center - Educational Development Center, Paramus	22
Technology for Children - N.J. Division of Vocational Education	23
Learning Resource Center - Gloucester Catholic High School	24
Individually Guided Education - N.J. Office of Program Development	25
Computer Assisted Instruction - Montclair Public Schools	26
Individualizing Instruction - Educational Improvement Center	27
Early Childhood Education - Dale Avenue School, Paterson	28

Concept - Exhibitor (Cont'd.)	Booth No.
TV for Vocational-Special Education-Bridgeton Public Schools...	29
Learning Resource - Lenape Regional High School	30
Multi-Media Production in Special Education - Fairfield Township Public Schools	31
Educational TV - Sayreville High School	32
Management by Objectives - Caldwell Public Schools	33
Educational Technology - N.J. Center for Educational Technology	34
Audio-Tutorial Systems - Burlington County College	35
TV Production for Reading - Black Horse Pike Regional Public Sch.	36
Individualized Instruction - Voorhees Twp. Public Schools	37
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Educational TV - Hunterdon Central High School	39
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Media Van - Jersey City State College.....	Outside

Special thanks to:

Burlington County Vocational Technical School for acting as hosts
Boeing Corporation for promotional materials
Educational Improvement Center for assistance in planning and publicity
IBM for equipment
To all exhibitors

CET is a special project of:

Office of Program Development
Division of Research, Planning and Evaluation
New Jersey Department of Education

APPENDIX B

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CET PRINTOUT

VOL. 1 NO. 1 JANUARY 1972

PERIODIC NEWSLETTER PUBLISHED BY THE NEW JERSEY CENTER FOR EDUCATIONAL TECHNOLOGY, JOSEPH DISTEFANO, DIRECTOR, 1000 SPRUCE STREET, TRENTON, NEW JERSEY 08625 - 609-292-7141

OBJECTIVE:

1. GIVEN THE ENGLISH ALPHABET, THE READER, AT THE COMPLETION OF THIS NEWSLETTER, WILL EXTRACT AND PLACE IN PROPER SEQUENTIAL ORDER, AND IDENTIFY WHAT EACH LETTER STANDS FOR, WITH 100% ACCURACY, THE NAME OF THE ORGANIZATION RESPONSIBLE FOR THIS PUBLICATION.
2. GIVEN A LIST OF 8 CHOICES OF ACTIVITIES, THE READER, UPON COMPLETION OF THIS NEWSLETTER, WILL CHECK-OFF, WITH 100% ACCURACY, 5 OF THOSE RELATED TO THE CENTER FOR EDUCATIONAL TECHNOLOGY.

THREE CET-A-LITES ESTABLISHED.....

CET HAS DESIGNATED PARAMUS, MOORESTOWN, AND THE EDUCATIONAL IMPROVEMENT CENTER, PITMAN, AS SUPPORT AGENCIES. THESE CENTERS WILL SUPPLEMENT AND/OR IMPLEMENT VARIOUS CET ACTIVITIES AND SERVICES THROUGHOUT NEW JERSEY.

SPECIAL EVENTS.....

CET, IN COOPERATION WITH THE N.J. CABLE TELEVISION, RECENTLY SPONSORED A CONFERENCE INCLUDING EDUCATORS, CATV OPERATORS, AND LEGISLATORS, WHICH EXPLORED POTENTIAL COOPERATIVE EFFORTS IN EDUCATIONAL BROADCASTING OVER CABLE TELEVISION.

ALSO, THE PARAMUS CENTER HAS JUST COMPLETED AN 8 MM FILM-MAKING 'COURSE' IN COOPERATION WITH CET. A SIMILAR PROGRAM, UNDER THE DIRECTION OF AL KOCHKA, N.J. C.AND I., TOOK PLACE AT EIC.

SCHEDULED FOR MONDAYS, 7:30-9:30 P.M., BEGINNING ON 14 FEBRUARY AT PARAMUS - A 9 SESSION A-V INSERVICE WORKSHOP FOR ELEMENTARY AND SECONDARY PERSONNEL IN THE PRACTICAL APPLICATION OF A-V TECHNIQUES AND THE PRODUCTION OF A-V MATERIALS. CALL 201-265-2337 FOR MORE INFORMATION.

SCHEDULED FOR SOMETIME IN MAY - AN EDUCATIONAL TELEVISION CONFERENCE. INVITED WILL BE DISTRICTS USING TV IN THE CURRICULUM AND OTHER SCHOOLS INTERESTED IN BEGINNING TV PRODUCTION ACTIVITIES. MORE INFORMATION TO FOLLOW.

N.J. FIRST ANNUAL ED. TECH. CONFERENCE.....

..... TO BE HELD 20, 21 APRIL AT THE BURLINGTON VOC-TECH SCHOOL. THE THEME WILL BE '747-JUMBO JET-AGE IN EDUCATION' AND WILL INCLUDE EXHIBITS

PRINTOUT

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ED. TECH. PRODUCTS .....

CET ISSUES A 'CONSUMERS REPORT' NEWSLETTER WHICH EVALUATES VARIOUS EQUIPMENT ITEMS AND RELATED MATERIALS. BACK ISSUES ARE AVAILABLE. TO DATE THE RELEASES HAVE INCLUDED: JUNE-'VIDEO TAPE RECORDERS'; SEPT.-'AUDIO CASSETTES'; DEC. - 'CATV'; JAN. - 'MEDIA HINTS'.

CET IS IN THE PROCESS OF COMPLETING FILMSTRIPS ON THE FOLLOWING TOPICS 'PPBS', 'THE LEARNING RESOURCE CENTER', AND 'WHAT IS EDUCATIONAL TECHNOLOGY' CONTACT CET IF INTERESTED IN SECURING A COPY.

OTHER PRODUCTS OF INTEREST ARE AVAILABLE AT EIC: A SLIDE TAPE ON INDIVIDUALIZED INSTRUCTION; A SLIDE TAPE ON BEHAVIORAL OBJECTIVES; A TRAINING AID - A SCRIPT AND 'MASTERS' FOR TRANSPARENCY DUPLICATION - ON BEHAVIORAL OBJECTIVES; A PERT TRAINING PACKAGE; AN INDIVIDUALIZED TRAINING PACKAGE ON INDIVIDUALIZED INSTRUCTION - IPIM.

ED. TECH. SURVEY .....
CET IS IN THE PROCESS OF DEVELOPING A SURVEY OF NEW JERSEY TO ASCERTAIN THE 'STATE OF THE ART' OF EDUCATIONAL TECHNOLOGY IN OUR SCHOOLS. THE CENTER REQUESTS THE COOPERATION OF ALL RECIPIENTS OF THE SURVEY TO RESPOND TO THE QUESTIONNAIRE AND RETURN IT TO US AS QUICKLY AS POSSIBLE.

MODEL MINI-PROJECT .....
.....ESTABLISHED, IN COOPERATION WITH EIC, IN FAIRFIELD TOWNSHIP, CUMBERLAND COUNTY. A CLASS OF EDUCABLES, GOULDTOWN ELEMENTARY SCHOOL, WILL BECOME ACTIVELY INVOLVED IN MEDIA PRODUCTION AS A MEANS OF IMPROVING ACADEMIC SKILLS, SELF-IMAGE AND PEER-GROUP RELATIONS. ALSO, THE CLASS WILL BECOME THE MEDIA PRODUCTION UNIT FOR THE ENTIRE SCHOOL.

OTHER PROJECTS OF INTEREST.....
BRIDGETON, N.J. - A TV PRODUCTION UNIT WHICH UTILIZED SOCIALLY MAL-ADJUSTED AND EMOTIONALLY DISTURBED STUDENTS AS THE CREW.
BLACK HORSE PIKE REGIONAL - TRITON HIGH SCHOOL - A TV PRODUCTION UNIT WHICH INVOLVES THE CHRONICALLY POOR READER IN PRODUCING TV PROGRAMS IN ORDER TO IMPROVE READING ACHIEVEMENT.

GRADUATE COURSE - 'INTRODUCTION TO ED. MEDIA'.....
3 CREDITS OFFERED BY TEMPLE UNIVERSITY COURSE TO BE HELD THURSDAYS, 4:30-7:30, BEGINNING JANUARY AT EIC - $77 A CREDIT FOR NEW JERSEY RESI-DENTS. PRE-REGISTRATION FORMS AVAILABLE AT EIC - 609-589-3410 - OR REGISTER ON FIRST NIGHT.

MEDIA PRODUCTION TRAINING PROGRAM .....
..... AN EIC-CET EFFORT - 15 FRIDAYS BEGINNING 18 FEB. - 3 HOUR SESSIONS FOR AV COORDINATORS - 1:30 TO 4:30 AT CAMDEN COUNTY VO-TECH SCHOOL - SICKLERVILLE CAMPUS - LIMIT OF 15 PARTICIPANTS - CALL DAN DESANTIS - 609-589-3410 FOR INFORMATION

HANDS ON - A MINI-COURSE.....
..... AT GLASSBORO STATE COLLEGE EDUCATIONAL MEDIA CENTER. SUPER 8 FILM 'MAKING AND USING'. SPONSORED BY NEW JERSEY A-V COUNCIL. ATTENDANCE LIMITED TO MEMBERS ONLY. CALL AARON GROSSMAN - 609-424-2222 FOR INFOR-MATION.

'MEDIA - THE NOW SCENE'.....
A CONFERENCE AT JERSEY CITY STATE COLLEGE. SATURDAY 18 MARCH, 8:30 - 2:00. SEND TO CET, JERSEY CITY STATE COLLEGE FOR BROCHURE AND REGISTRATION.

MODEL CENTERS.....
CET, IN COOPERATION WITH THE SCHOOL LIBRARY GROUP, HAS ESTABLISHED 25 MODEL LEARNING RESOURCE CENTERS THROUGHOUT NEW JERSEY. FUNDS WERE PROVIDED UNDER ESEA II.

N.J. MEDIA DIRECTORY.....
..... OF ALL MEDIA SPECIALISTS, A-V COORDINATORS AND RELATED JOB TITLES, NAMES AND ADDRESSES OF RELATED AGENCIES, ETC. BEING DEVELOPED BY CET IN COOPERATION WITH SCHOOL LIBRARY GROUP.

ACCOUNTABILITY, BEHAVIORAL OBJECTIVES, CRITERION - MEASURING .....
INSTRUMENTS, AND THE CLASSROOM TEACHER. IF YOU ARE INTERESTED IN FINDING OUT MORE ABOUT THESE TERMS, AN INSERVICE PROGRAM AT CET, PARAMUS, WITH 10 SESSIONS WILL BEGIN TUES. 15 FEB. DEADLINE FOR REGISTRATION - 1 FEB. - CALL 201-265-2333

CUMBERLAND COUNTY. A CLASS OF EDUCABLES, GOULDTOWN ELEMENTARY SCHOOL, WILL BECOME ACTIVELY INVOLVED IN MEDIA PRODUCTION AS A MEANS OF IMPROVING ACADEMIC SKILLS, SELF-IMAGE AND PEER-GROUP RELATIONS. ALSO, THE CLASS WILL BECOME THE MEDIA PRODUCTION UNIT FOR THE ENTIRE SCHOOL.

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BLACK HORSE PIKE REGIONAL - TRITON HIGH SCHOOL - A TV PRODUCTION UNIT WHICH INVOLVES THE CHRONICALLY POOR READER IN PRODUCING TV PROGRAMS IN ORDER TO IMPROVE READING ACHIEVEMENT.

GRADUATE COURSE - 'INTRODUCTION TO ED. MEDIA'.....
3 CREDITS OFFERED BY TEMPLE UNIVERSITY COURSE TO BE HELD THURSDAYS, 4:30-7:30, BEGINNING JANUARY AT EIC - $77 A CREDIT FOR NEW JERSEY RESI-DENTS. PRE-REGISTRATION FORMS AVAILABLE AT EIC - 609-589-3410 - OR REGISTER ON FIRST NIGHT.

MEDIA PRODUCTION TRAINING PROGRAM .....
..... AN EIC-CET EFFORT - 15 FRIDAYS BEGINNING 18 FEB. - 3 HOUR SESSIONS FOR AV COORDINATORS - 1:30 TO 4:30 AT CAMDEN COUNTY VO-TECH SCHOOL - SICKLERVILLE CAMPUS - LIMIT OF 15 PARTICIPANTS - CALL DAN DESANTIS - 609-589-3410 FOR INFORMATION

HANDS ON - A MINI-COURSE.....
..... AT GLASSBORO STATE COLLEGE EDUCATIONAL MEDIA CENTER. SUPER 8 FILM 'MAKING AND USING'. SPONSORED BY NEW JERSEY A-V COUNCIL. ATTENDANCE LIMITED TO MEMBERS ONLY. CALL AARON GROSSMAN - 609-424-2222 FOR INFOR-MATION.

'MEDIA - THE NOW SCENE'.....
A CONFERENCE AT JERSEY CITY STATE COLLEGE. SATURDAY 18 MARCH, 8:30 - 2:00. SEND TO CET, JERSEY CITY STATE COLLEGE FOR BROCHURE AND REGISTRATION.

MODEL CENTERS.....
CET, IN COOPERATION WITH THE SCHOOL LIBRARY GROUP, HAS ESTABLISHED 25 MODEL LEARNING RESOURCE CENTERS THROUGHOUT NEW JERSEY. FUNDS WERE PROVIDED UNDER ESEA II.

N.J. MEDIA DIRECTORY.....
..... OF ALL MEDIA SPECIALISTS, A-V COORDINATORS AND RELATED JOB TITLES, NAMES AND ADDRESSES OF RELATED AGENCIES, ETC. BEING DEVELOPED BY CET IN COOPERATION WITH SCHOOL LIBRARY GROUP.

ACCOUNTABILITY, BEHAVIORAL OBJECTIVES, CRITERION - MEASURING .....
INSTRUMENTS, AND THE CLASSROOM TEACHER. IF YOU ARE INTERESTED IN FINDING OUT MORE ABOUT THESE TERMS, AN INSERVICE PROGRAM AT CET, PARAMUS, WITH 10 SESSIONS WILL BEGIN TUES. 15 FEB. DEADLINE FOR REGISTRATION - 1 FEB. - CALL 201-265-2333

EVALUATION

OBJECTIVE #1

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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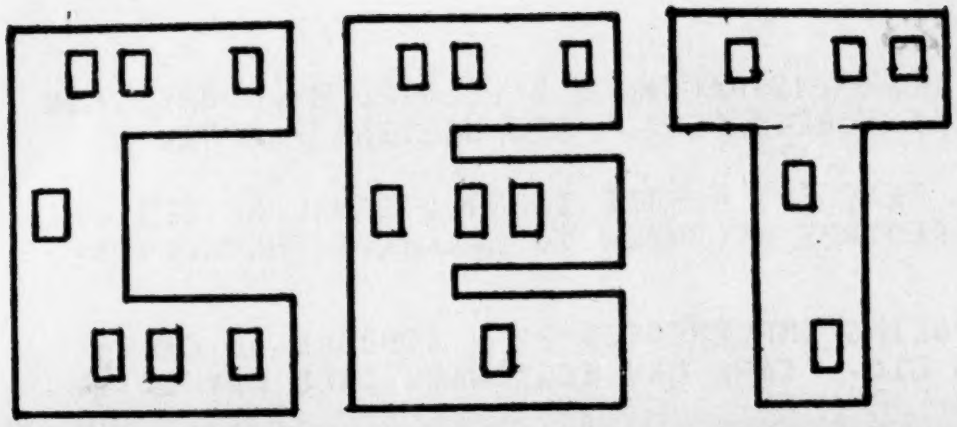
OBJECTIVE #2

- ☐ DISSEMINATES INFORMATION
- ☐ OPERATES N.J. COMSAT
- ☐ SPONSORS WORKSHOPS
- ☐ PRODUCES MATERIALS
- ☐ ESTABLISHES MODEL PROJECTS
- ☐ SPONSORS CONFERENCES
- ☐ PROVIDES CONSULTATION
- ☐ MANUFACTURES POLLUTION-FREE A-V CARTS



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VOL. 1 NO. 2 FEBRUARY 1972

PERIODIC NEWSLETTER PUBLISHED BY THE NEW JERSEY CENTER FOR EDUCATIONAL TECHNOLOGY, JOSEPH DISTEFANO, DIRECTOR, 1000 SPRUCE STREET, TRENTON, NEW JERSEY 08638 - 609-292-7141.

CHANGE OF DATE

JET CET:

FIRST ANNUAL EDUCATIONAL TECHNOLOGY CONFERENCE. '747 - JUMBO JET-AGE IN EDUCATION,' AT BURLINGTON VOC-TECH SCHOOL.

TV, LEARNING RESOURCE CENTERS, COMPUTERS, INNOVATIVE USES OF MULTI-MEDIA, INDIVIDUALIZED INSTRUCTION, DIFFERENTIATED STAFFING, MANAGEMENT BY OBJECTIVES, ACCOUNTABILITY, PPBS, SYSTEMS APPROACH, DIAL ACCESS, COST/EFFECTIVENESS, PROGRAMMED INSTRUCTION, MODULAR SCHEDULING.....

APRIL 28 AND 29 -- MULTI-MEDIA EXHIBITS, SEMINARS, KEYNOTE ADDRESS - COMMISSIONER MARBURGER. 28 AND 29 APRIL. WATCH YOUR MAIL FOR MORE INFORMATION.

● ON-LINE:

• MEDIA PRODUCTION

CET/EIC TRAINING PROGRAM. FEBRUARY THROUGH JUNE. FRIDAY P.M. SESSIONS FOR A-V COORDINATORS. CAMDEN COUNTY VOC-TECH HIGH SCHOOL, SICKLERVILLE. CONTACT DAN DESANTIS, 609-589-3410.

CET-PARAMUS: BEGINNING FEBRUARY. THREE 10 SESSION A-V IN-SERVICE WORKSHOPS FOR ELEMENTARY AND SECONDARY PERSONNEL IN THE PRACTICAL APPLICATION OF A-V TECHNIQUES AND THE PRODUCTION OF A-V MATERIALS. CALL 201-265-2333 FOR MORE INFORMATION.

IN-SERVICE SESSIONS -- CHILDREN'S LITERATURE. MARCH - BERGEN, PASSAIC, ESSEX COUNTIES. CALL MRS. CHRIS MURRAY, 201-265-2333.

MINIGRANT DEADLINE, APRIL 14. UP TO 1,000 PER PROJECT. AVAILABLE TO PUBLIC SCHOOL TEACHERS WITH INNOVATIVE IDEAS. CET ENCOURAGES ED TECH MINIGRANTS. WILL PROVIDE CONSULTATIVE SERVICES.

EIC ANNUAL SPRING CONFERENCE IN COOP WITH CET 1ST ANNUAL ED TECH CONFERENCE. 'A MANAGEMENT SYSTEM TO MEET THE DEMANDS FOR ACCOUNT-ABILITY,' APRIL 28, 29.

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● PROGRAMMING:

COMPUTER BASED RESOURCE UNITS. PROJECT APPLE IN PARSIPPANY-TROY HILLS. TEACHERS OF NEUROLOGICALLY OR PERCEPTUALLY IMPAIRED FEED INDICATORS TO COMPUTER, RECEIVE PRINTOUTS OF RECOMMENDED GROUPINGS, ACTIVITIES, MEASUREMENTS. CBRU'S: COMING FOR ALL CHILDREN..

PRACTICUM FOR EDUCATION MAJORS -- GLASSBORO STATE COLLEGE. PRO-DUCTION FOR INSTRUCTIONAL NEEDS WITH EIC MEDIA STAFF. TEACHER-TRAINING WITH A FUTURE FOCUS.

CHILDREN'S LIT ON MICROFICHE. PARAMUS SCHOOL SYSTEMS EXPERIMENT-ING WITH XEROX PROGRAM.

6 VIDEOTAPES ON TEACHER-MADE TESTS FOR FOREIGN LANGUAGES. PAUL HILAIRE, STATE DEPT. OF ED., FOREIGN LANGUAGE CONSULTANT.

'EARTH SCIENCE' MEDIATED LEARNING PACKAGES DEVELOPED BY MOORESTOWN SCHOOL DISTRICT. DEMONSTRATED AT NJASCD REGION III MEETING - APRIL 26.

MINICOURSE/MICROTEACHING. TEACHERS REFINE INSTRUCTIONAL SKILLS WITH SMALL GROUP PRACTICE, USING VIDEOTAPE RECORDER TO EVALUATE THEMSELVES. TRAVELL SCHOOL, RIDGEWOOD.

SYSTEMS MANAGEMENT PLAN. BEING IMPLEMENTED BY 4 SCHOOLS IN CAPE MAY COUNTY IN COOPERATION WITH EIC. CAPE MAY REGIONAL, CAPE MAY CITY, WEST CAPE MAY, LOWER TOWNSHIP.

• MOPPET:

HUMANITIES/MEDIA APPROACH. SLIDES, TAPED MUSIC, ART, DANCE, DRAMA, FILM INTEGRATED WITH CURRICULUM TO PROMOTE CHILDREN'S CREATIVITY, ENJOYMENT OF LEARNING, AND ACHIEVEMENT. WOODBRIDGE SCHOOL SYSTEM.

TWO PLACES WITH INTEGRATED MEDIA PROGRAMS WELL-WORTH VISITING - BROOKDALE COMMUNITY COLLEGE AND BURLINGTON COUNTY COMMUNITY COLLEGE.

•TELECOPIER AT SEIMCS:

TRANSMITS PRINT COMMUNICATION OVER TELEPHONE LINES. AN 8X10' COPY IN 4 MINUTES.

● OUTPUT:

CET CONSUMER REPORT ON '8 MM FILMS'. BACK ISSUES EARLIER REPORTS AVAILABLE - JUNE 'VTR'S', SEPT. 'AUDIO-CASSETTES', DEC. 'CATV', JAN. 'MEDIA HINTS'.

SLIDE/TAPE PRESENTATION ON THE FUNCTIONS OF PARAMUS CET-A-LITE - 'A TYPICAL DAY'.

COMING SOON - CET FILMSTRIPS ON THE LEARNING RESOURCE CENTER -- PPBS -- ED TECH.

NOW - DIRECTORY OF NEW JERSEY SCHOOL MEDIA SPECIALISTS. STATISTICS ON NEW JERSEY SCHOOL MEDIA PROGRAMS. COPIES AVAILABLE UPON REQUEST. ANN VOSS, COORDINATOR OF MEDIA, STATE LIBRARY, 185 W. STATE ST., TRENTON, N. J. 08625

● LANGUAGE:

NATIONAL AUDIO VISUAL ASSOCIATION LOBBYING FOR CONGRESS TO REVIEW OE REORGANIZATION SPLITTING BUREAU OF LIBRARIES AND EDUCATIONAL TECHNOLOGY, RESTORE NDEA III AND HEA VI FUNDING. WRITE.

TITLE II DEMONSTRATION CENTERS. 26 MODEL LEARNING RESOURCE CENTERS THROUGHOUT N. J. AND 2 CET-A-LITES. SCHOOL MEDIA PROGRAMS. COLLECTIONS OF PRINT AND NON-PRINT MATERIALS. HARDWARE. A PAMPHLET ON VISITATION SITES NOW AVAILABLE. CONTACT MS. ANN VOSS, STATE LIBRARY, TRENTON.

● DATA:

NATIONAL ASSOCIATION OF SUPERVISION AND CURRICULUM DEVELOPMENT CONFERENCE. PHILADELPHIA, MARCH 5-9.

'MEDIA - THE NOW SCENE', JERSEY CITY STATE COLLEGE - SATURDAY, MARCH 18. CONTACT DR. BRUCE WALDMAN.

NATIONAL EDUCATIONAL TECHNOLOGY CONFERENCE, NEW YORK CITY, MARCH 19-23 - AMERICANA HOTEL.

ASSOCIATION OF EDUCATIONAL COMMUNICATIONS AND TECHNOLOGY, MINNEAPOLIS - APRIL 16-21.

'ECOLOGY AND TECHNOLOGY'. A 2 DAY CONFERENCE. CONTACT DR. MICHAEL PIBURN, RUTGERS, NEW BRUNSWICK

MAY COUNTY IN COOPERATION WITH EIC. CAPE MAY REGIONAL, CAPE MAY CITY, WEST CAPE MAY, LOWER TOWNSHIP.

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MICROFORMS WORKSHOP - MARCH 10-11 - RUTGERS UNIVERSITY EXTENSION DIV. NEW BRUNSWICK. CONTACT: MRS. ANNE H. CASTELE, REGISTRAR.

FILM LITERATURE CONFERENCE - APRIL 27-28, PEDDIE SCHOOL, HIGHTSTOWN.

● INPUT:

DO YOU HAVE ANYTHING RELATED TO EDUCATIONAL TECHNOLOGY IN OUR STATE FOR PRINTOUT? WRITE OR CALL DR.SHARON TUMULTY,1000 SPRUCE ST. TRENTON, N. J. 08638

● CORRECTION:

CET NEWSLETTER NO. 4 N.J. AUDIO VISUAL NEWS - MEMBERSHIP PUBLICATION OF THE N.J. AUDIO-VISUAL ED. DUES 50¢ PER YEAR. TEACHERS USE OF AUDIO-VISUAL MATERIALS. ISSUED SEMI-ANNUALLY.

CET PRINTOUT

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Trenton, N.J. 08638
609-292-7141

VOL. 1, NO. 3 APRIL 1972

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THE "747 JUMBO JET AGE IN EDUCATION CONFERENCE," NEW JERSEY'S FIRST EDUCATIONAL TECHNOLOGY EXPOSITION, TO BE HELD ON APRIL 28 AND 29, WILL BEGIN AT 12 NOON, APRIL 28, WITH N.J. COMMISSIONER OF EDUCATION CARL L. MARBURGER GIVING A KEYNOTE ADDRESS IN THE AUDITORIUM OF THE BURLINGTON CO. VOCATIONAL TECHNICAL SCHOOL IN MOUNT HOLLY, NEW JERSEY.

THE 47 EXHIBITS WILL BE OPEN AT 1 P.M. ON FRIDAY AND WILL CLOSE AT 5 P.M. APRIL 28. THREE OF THE SEVEN SEMINARS LISTED IN THE BROCHURE WILL BE CONDUCTED FROM 2 TO 4 P.M. ON THE SAME DAY.

ON SATURDAY, APRIL 29, THE EXHIBITS WILL OPEN AT 9 A.M. AND WILL CLOSE AT 1 P.M. THE FOUR SEMINARS TO BE HELD ON SATURDAY WILL BE CONDUCTED FROM 10 A.M. TO 12 NOON.

IF YOU HAVE NOT MADE YOUR RESERVATIONS YET, DO SO IMMEDIATELY, AS THE FLIGHTS ARE GETTING BOOKED RAPIDLY. CONTACT CENTER FOR EDUCATIONAL TECHNOLOGY.

PROGRAMMING●

UNION SCHOOL DISTRICT PRODUCING MULTI-MEDIA ENVIRONMENTAL EDUCATION MATERIALS.

GLOUCESTER CATHOLIC HIGH SCHOOL. GENERAL SCIENCE CLASS PRODUCING 8 MM FILMS AND SLIDES ON ECOLOGY AS LEARNING EXPERIENCE/PRESENTATION.

"EARTH SCIENCE" MEDIATED LEARNING PACKAGES DEVELOPED BY MOORESTOWN SCHOOL DISTRICT. TO BE DEMONSTRATED AT NJASCD REGION III MEETING -APRIL 26.

ON-LINE●

NEW JERSEY MINIGRANT DEADLINE APRIL 14.

EIC ANNUAL SPRING MANAGEMENT INSTITUTE, APRIL 26-28, SHERATON POSTE MOTEL, ROUTE 70. CONTACT EIC TO REGISTER. 609-589-3410

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LANGUAGE●

"THE PROBLEM IS NOT TO MECHANIZE EDUCATION, BUT TO HUMANIZE IT BY AMPLIFYING THE EFFECTIVENESS OF HUMAN BEINGS AND RELEASING THEM FROM MACHINE-LIKE CHORES."

JAMES W. BROWN AND KENNETH D. NORBERG,
ADMINISTERING EDUCATIONAL MEDIA

DATA●

NEW JERSEY LIBRARY ASSOCIATION AND NEW JERSEY SCHOOL MEDIA ASSOCIATION CONFERENCE, APRIL 19-23, SHELBURNE-DENNIS HOTEL, ATLANTIC CITY.

AUDIO-TUTORIAL CONFERENCE, MAY 4, 5, 6 AT BURLINGTON COUNTY COMMUNITY COLLEGE.

SOFTWARE●

TITLE II AND CET COORDINATING FUNDING FOR MEDIA DISPLAY AND DEMONSTRATION CENTERS. THE LATEST IN SOFTWARE ACQUISITIONS:

NEW JERSEY OCCUPATIONAL RESEARCH DEVELOPMENT RESOURCE CENTER, EDISON. COMPLETE ERIC FILE. HOUSES EXTENSIVE COLLECTION OF MICROFORMS, NEWSPAPER CLIPPINGS, DOCUMENTS, BOOKS, AUDIOVISUAL HARDWARE AND SOFTWARE, EDUCATIONAL GAMES. CAREER EDUCATION MEDIA EVALUATION PROJECT. COST/EFFECTIVENESS, MULTI-MEDIA MATERIALS RELATED TO CAREER EDUCATION AND VOCATIONAL EDUCATION. 500 ITEMS WITH EVALUATIONS. WILLING TO SERVICE REQUESTS.

NEW JERSEY STATE COUNCIL FOR ENVIRONMENTAL EDUCATION, MONTCLAIR STATE COLLEGE, UPPER MONTCLAIR. CONCERNED WITH EVALUATION OF EXISTING ENVIRONMENTAL EDUCATION PROGRAMS. DEVELOPING MASTER PLAN FOR ENVIRONMENTAL EDUCATION IN NEW JERSEY. K-12 GUIDELINES IN ENVIRONMENTAL EDUCATION. LIBRARY AND CONFERENCE AREA, BORROWING PRIVILEGES. SUPPLEMENTING REFERENCE COLLECTION WITH PRINT AND NON-PRINT MEDIA; GAMING MATERIALS, FILMSTRIPS, TRANSPARENCIES, 3-D OBJECTS, POLLUTION-MONITORING KITS.

CONSERVATION AND ENVIRONMENTAL STUDIES CENTER, BROWNS MILLS. CURRICULUM DEVELOPMENT AND TEACHER TRAINING. WITH CET, A LEARNING RESOURCE CENTER SERVING MERCER AND MONMOUTH COUNTIES IN PARTICULAR. BROAD SELECTION PRINT AND NON-PRINT MULTI-MEDIA HOLDINGS. SUPPLEMENTING EXISTING COLLECTION WITH BOOKS, FILMSTRIPS, FILM LOOPS, STUDY KITS, RECORDING, PHOTOGRAPHS. OPEN FOR USE BY APRIL 1.

SEIMC - SPECIAL EDUCATION INSTRUCTIONAL MATERIALS CENTERS. THREE SEIMC CENTERS - GLASSBORO STATE COLLEGE LIBRARY, NEWARK STATE COLLEGE LIBRARY, AND SUSSEX COUNTY SUPERINTENDENT OF SCHOOLS OFFICE - MOBILE UNIT. MATERIALS AND TRAINING FOR STRENGTHENING THE QUALITY OF EDUCATION FOR HANDICAPPED CHILDREN AND YOUTH. DISPLAY MULTI-MEDIA HARDWARE. PROVIDE CURRICULUM GUIDES AND CONSULTANT SERVICES. CIRCULATION, EVALUATION MATERIALS. PROFESSIONAL AND REFERENCE RESOURCES. ACQUIRING EARLY CHILDHOOD MATERIALS, HOPING TO ESTABLISH SEIMC SATELLITES.

PARAMUS EDUCATIONAL DEVELOPMENT CENTER - CET-A-LITE - SERVES BERGEN, ESSEX, PASSAIC COUNTIES. MEDIA ON DISPLAY. OPEN FOR EVALUATION AND SELECTION OF MATERIALS. PREVIEW, BORROW MATERIALS FOR USE, TESTING, EVALUATION. MICROFICHE, MICROFILM, SIMULATION GAMES, NEW BOOKS, FILM LOOPS, SCIENTIFIC EXPERIMENT KITS, FILMSTRIPS, TAPES, RECORDINGS, MODELS, SOME HARDWARE, RECENT COMMERCIAL CATALOGUES, MEDIA PACKAGES. TEAM EVALUATION OF EQUIPMENT AND MULTI-MEDIA MATERIALS IN CURRICULAR CONTEXT. FREQUENT WORKSHOPS. ADDING TO COLLECTION IN FOREIGN LANGUAGE, PHYSICAL EDUCATION, MATHEMATICS.

MOORESTOWN MEDIA CENTER. MIDDLE SCHOOL AND SENIOR HIGH SCHOOL, MOORESTOWN. INTEGRATION OF TECHNOLOGY WITH THE TOTAL TEACHING/LEARNING EXPERIENCE. CROSS-SECTION OF VARIOUS TYPES OF EDUCATIONAL MATERIALS. PRINT AND NON-PRINT SOFTWARE: BOOKS, RECORDS, CASSETTES, SLIDES, FILMSTRIPS, SUPER-8 LOOPS, TRANSPARENCIES. ACQUISITION DETERMINED BY TEACHER REQUESTS, PREVIEW AND EVALUATION. SOME EMPHASIS ON SCIENCE, SOCIAL STUDIES, LANGUAGE ARTS, PHYSICAL AND VOCATIONAL EDUCATION. COMPUTERS. WET CARRELS. EDUCATIONAL TELEVISION. INSTRUCTIONAL THEATRE. REPRESENTATIVE HARDWARE. SOON TO OPEN, A COMPLETE K-12 MEDIA CENTER CONCEPT. OPEN FOR VISITATION.

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CONSERVATION AND ENVIRONMENTAL STUDIES CENTER, BROWNS MILLS. CURRICULUM DEVELOPMENT AND TEACHER TRAINING. WITH CET, A LEARNING RESOURCE CENTER SERVING MERCER AND MONMOUTH COUNTIES IN PARTICULAR. BROAD SELECTION PRINT AND NON-PRINT MULTI-MEDIA HOLDINGS. SUPPLEMENTING EXISTING COLLECTION WITH BOOKS, FILMSTRIPS, FILM LOOPS, STUDY KITS, RECORDING, PHOTOGRAPHS. OPEN FOR USE BY APRIL 1.

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APRIL 1972

SPECIAL ISSUE

FLY US!

747 Jumbo Jet Age in Education Conference. New Jersey's First Educational Technology Exposition. April 28 and 29 at Burlington Co. Voc-Tech. School, Woodland Road, Mount Holly (near Exit 5, N.J. Turnpike).

Opens at 12 Noon with N.J. Commissioner of Education Carl L. Marburger keynote address.
47 Exhibits and 7 Seminars.

LEARNING RESOURCE CENTERS--TV--MULTI-MEDIA INSTRUCTION--COMPUTERS--MANAGE-MENT SYSTEMS--FLEXIBLE SCHEDULING--AND STAFFING--INDIVIDUALIZED INSTRUCTION . . .

Exhibits open 1-5 p.m. Friday. Three seminars 2-4 p.m. Exhibits open Saturday 9 a.m.-1 p.m. Four seminars 10 a.m. - Noon. MAKE YOUR RESERVATIONS NOW. Center for Educational Technology 609-292-7141.

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3rd Annual Northern New Jersey Educational Media (AV) Conference. Co-sponsored by the New Jersey Audio Visual Education Association. May 17 & 18 at Seton Hall University, South Orange. Two day event: Workshop/Seminar program and commercial AV exhibits May 17 -- U.S.O.E. Multi-Media Innovative Programs and Products Exhibit May 17 & 18. Contact Dr. R. Cornfield -- Seton Hall University.

Paramus Cet-a-lite. Children's Literature Workshop. May 1, 8, & 15. 7-9 p.m. East Brook Jr. High School, Paramus. Poetry-Science-Parapsychology. Contact Chris Murray 201-265-2333.

2nd Annual Northeast Regional Audio-Tutorial Conference. Speakers, Workshops, Rap Sessions, Facility-Tours, and Exhibits. Burlington County College, Pemberton. May 4, 5, and 6.

Trenton, N.J. 08638
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Association for Educational Data Systems Convention. Hilton Hotel, St. Paul, Minnesota. May 15-19.

ON-LINE●

EIC Summer Workshops: Interested in starting a non-graded primary program? (July 10-12) Becoming a reader-breeder? (June 26-30) Deschooling society? (June 26-30) Many more: Educational Evaluation (July 10-14), Modifying Behavior (July 17-21), Individualized Instruction (July 24-August 4), School TV Production (August 7-18), Learning Materials for Exceptional Children (June 26-30), Hands-On

Media (July 17-28), and Management by Objectives (August 2-13). Flyers out shortly.

Paramus Cet-a-lite closing first two weeks July and first two weeks August.

Coming--Paramus Cet-a-lite in September. More new high school materials. Also language arts materials for elementary and junior high levels.

EIC next fall. Planning a 3 credit course -- "Introduction to Educational Media" -- with Temple University.

CET Special Feature on Environmental Education now available. Also back issues earlier consumer reports -- "8 mm Film," "Media Hints," "CATV," "Audio Cassettes," "VTRs."

EIC working on complete packaged program on Educational Management by Objectives.

Don't forget 747! CET's 1st Annual Ed. Tech. Exposition. April 28 and 29. Burlington County Voc-Tech School, Mount Holly (Exit 5, N.J. Turnpike).

PROGRAMMING ●

Glassboro High School. Humanization through Technology. Title III In-service Program TV Production. 23 in-class productions. 600 students directly involved. Mobile van to encourage student TV production as classroom activity. Variety of subjects. Contact Walter Vail 881-2290 for further information.

Special Assessment and Evaluation Vans. State Department of Education, Vocational Education Division, Bureau of Special Needs. Testing Voc. Ed. Students in 10 areas using work stations equipped with filmstrips and cassette tapes. Diagnosis of abilities and interests, job placement.

TV Production activities for students. Designed to improve reading skills. Highland Regional High School, Blackwood.

Willingboro: School-Home Television for Preschool Hearing Handicapped to improve communications skills. Original taped television programs, parents' guide, and materials kit. Also adapted for Spanish speaking and culturally different children in development of language skills. Completed tapes will be shared with Salem, Bridgeton, Millville, Vineland, and Trenton Public Schools.

U.S.O.E. Self-Contained Multi-Media Exhibits on Innovative Educational Programs and Products. Sponsored by the National Center for Educational Communication. Individually Guided Education, MATCH Units, Home Oriented Early Childhood Education, Minicourse on Effective Questioning, First Year Communications Skills, Comprehensive School Mathematics, Adult Basic Education: ESL, Cooperative Urban Teaching Education, Reinforced Readiness Requisites, Patterns in Arithmetic.

LANGUAGE ●

MEDIA SELECTION

Five criteria to be applied to the selection of an instructional medium:

(1) Cognitive appropriateness (Is the medium appropriate for implementing the attainment of the defined objective?)
(2) Level of sophistication (Is the medium aimed at the level of understanding of the students?)

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(1) Cognitive appropriateness (Is the medium appropriate for implementing the attainment of the defined objective?)
(2) Level of sophistication (Is the medium aimed at the level of understanding of the students?)
(3) Cost (Is the expense consistent with the potential results in terms of student learning?
(4) Availability (Are the material and equipment available when needed?)
(5) Technical Quality (Is the quality of material readable? visible? audible?)

Vernon S. Gerlach and Donald P. Ely. Teaching and Media: A Systematic Approach. Prentice Hall, Inc.: Englewood Cliffs, 1971.

INPUT ●

We would like to have your reaction to Printout. Call or write us:

Office of Program Development
Division of Research, Planning, and Evaluation
New Jersey State Department of Education
1000 Spruce Street
Trenton, N.J. 08638 Atten: Center for Educational Technology
Phone: 609-292-7141

APPENDIX C

CET

Newsletter
JUNE 1971

Center for Educational Technology — State of New Jersey Department of Education
Office of Program Development—Division of Research Planning and Evaluation—Trenton, N.J. 08625

The Center for Educational Technology has been established as a new effort of the State Department of Education's program of centers for research and demonstration. This is the second in a series of communications to educators from CET. The first dealt with research information pertaining to *reading instruction* and was also intended to introduce our readers to PREP resources (Putting Research into Educational Practice).

There is an interest in the growing use of classroom video recording devices in New Jersey schools. This growth indicates that every school administrator throughout the state will eventually be called upon to make decisions regarding the purchase of such equipment.

This newsletter is devoted to information which will assist you in prudent purchasing of classroom video tape recorders.

The content of this newsletter has been prepared for the State Department by the Educational Products Information Exchange (EPIE) Institute, a nonprofit "consumers' union" to which many New Jersey schools belong. Prior to publication the Paramus Public Schools assisted in evaluating the usefulness of the content to school decision-makers.

We hope results of this joint effort will, indeed, prove useful to you, as you decide about the use of video recording devices in your program. We also would appreciate any reactions you might have to the type of information offered through the Center for Educational Technology.

Cordially,

Stanley Salett

Stanley Salett,
Assistant Commissioner

WHAT DO SCHOOL USERS THINK OF VIDEO RECORDERS?

Information recently released by Dr. Claire Tettemer, Director of the Division of Communications at Northern Illinois University, indicates some interesting national trends in the school use of video recording devices. Dr. Tettemer's studies have been limited to five general types of machines: the broadcast adaptable machine, the 1 inch medium price range machine; the 1 inch format low price range machine; the 1/2 inch format portable machine; and the totally portable 1/2 and 1/4 inch machines.

These studies indicate that video recorders are used in schools for instant playback of events (e.g. teacher self-evaluation, athletic skills evaluation), closed circuit distribution of recorded materials, recording of programs being broadcast by local stations, and general recording for future use. A unique use of the more portable machines is the gathering of data for research studies of varying types. There has been evidence in past years of a growing use of video recorders as a means of exchange of lesson material. This is substantiated by the increase in the importance of machines being able to play tapes made on machines of other manufacturers or owned by other agencies.

While the great majority of machines are used for instant playback, the more sophisticated machines are used primarily for recording of materials for future use. This seems to reflect the setting in which the machine is used, the former in the classroom or gymnasium with non-technical personnel operating, the latter in the studio or control room with television personnel in charge.

Many factors affect the selection of a video recorder. Dr. Tettemer found that seven factors were considered predominately in selecting machines for use in schools. The two factors that seemed most important were ease of operation and price. Price is a factor dictated in many cases by bid statutes of school districts. A low bid does not necessarily mean the machine will do the job required, if it has been poorly specified. Other ranking considerations in descending order of importance are: compatibility of the machine with other owned equipment, availability of service, ease of maintenance, size and weight, and the standards of operation as they relate to the needs of the school. Ease of operation appears to be the predominating factor in selecting a machine.

No one is surprised at the interest in operational ease of recorders, but a disturbing factor is the use of wide area, large city, state, or other standards for the choosing of recording devices. The use of such standards seem to force users into choosing inappropriate machines for their use. In addition, the slowness of states to adopt standards means that schools using such standards can seldom take advantage of "state of the art" developments. The often oversold factors of color capability and slow motion are not really readily utilized or desirable factors in the selection of video recording devices.

Generally, Dr. Tettemer found users were most dissatisfied with the overall reliability of their machines. Generally speaking, the less expensive machines received a better "grade" in performance than did the more expensive models. Latest data substantiates this factor. Some of the dissatisfaction apparently stems from some recorders being used for things they are not designed to handle — a not uncommon problem with other hardware in educational settings. In general, Sony and IVC received the highest ratings in terms of overall performance. Panasonic was third. Ampex rated the poorest in reliability, user acceptance, service, and other factors leading to general user satisfaction.

Before selecting a recorder, potential buyers are encouraged to carefully evaluate the setting in which the recorder is to be used. Data contained in EPIE's *Educational Product Report* of December/January, 1969/70, and in other publications, will be useful in evaluating available machines. Visits to user schools throughout New Jersey are encouraged.

The video recorder can be a fine educational tool if it is properly selected and properly utilized. There is no black magic about these devices: common sense and user experience should be used to provide a sound base for selection of the proper machine for the proper job.

BEWARE THE "STANDARDS PROBLEM"

Unlike most other media, specific physical standards have not been established for video tape formats and machines. Thus, video tape comes in a variety of widths, from 1/4 inch to two inches, and on a variety of reels. Tapes recorded on one machine have not been made compatible with recorders other than those made by the same company. The EIAJ-1 standard developed in Japan for 1/2 inch monochrome recorders is regarded as a standard for recorders designed for non-broadcast use. But lack of standardization still exists in the wider formats.

Recorders manufactured to meet EIAJ-1 standards are available from at least five manufacturers: Sony, Panasonic, Concord, Craig, and Shibaden. Other EIAJ-1 machines can be found marketed under domestic private labels. Tapes made on any of these recorders may be played back on the EIAJ-1 recorders of the other manufacturers.

When the EIAJ-1 format was announced it was stated that other standards would follow. To date the 1 inch helical scan recorder field is still in chaos over standardization. The fact that the home and school market offers greater sales potential for the 1/2 inch recorders, as opposed to the more specialized market in education and industry for the 1 inch recorder, accounts for much of the concentration on the development of highly refined 1/2 inch machines.

While there is a place for the more sophisticated 1 inch video recorder for critical use, such as in motion analysis and color applications in science, a user with more typical uses for a recorder would be remiss in not giving serious thought to building his system around the recorders using the EIAJ-1 format.

HOW PORTABLE ARE THEY REALLY?

For general school use, portability of a recording and playback system is relative. While the recorder itself might be portable, receivers or display devices necessary for playback, and cameras and microphones for recording, require that the unit be mounted on a cart with accessories, or the entire process becomes unwieldy and impossible.

In recent years, manufacturers of 1/2 inch recorders have made available totally portable battery operated systems for recording only. These systems consist of a small recorder carried on a shoulder strap with a camera on a camera grip connected to the recorder via a video and control cord. Pulling a trigger on the grip starts the recorder mechanism.

The tape recorded in the field is played on a compatible AC operated machine on which it can be edited or dubbed.

AKAI of Japan has introduced a 1/4 inch recorder that is similar to the larger units, but scaled down to the point that it is nearly as portable as a typical cartridge load 8mm camera. Demonstration of these highly specialized machines are most impressive.

The prime desire of most users of these ultra portable packages is longer battery life. While battery packs are rechargeable, an investment in two packs is a must for most heavy users. Beyond this minor complaint users feel that the machines generally perform to their desired standards.

If a school is looking for a portable package, the latter word is the key. It must be a package. The accessories must be combined in roll-around carts, or some other convenient neat "package". If the unit is to be moved from school to school, foot locker or suitcase-type packaging for cameras, lights, sound equipment, and other accessories is a must. Look out for big boxes, they get heavy fast!

If the school contemplates the use of a battery operated unit, it must remember that a normal AC-powered unit must be available to play the final tape. Dubbing from one classroom recorder to another is sometimes a problem.

HERE'S HOW TO KEEP THEM RUNNING

Processing amplifiers, or other sophisticated accessories to adjust picture quality, sound level, and in other ways correct for the imperfections that are common in field recording might be needed. Consultation with a reliable dealer, consultant, or experienced school district is recommended. Above all, remember that it is not merely the recorder that must be portable, but the system. It may take more than one handle! Every piece of instructional equipment in the media center requires periodic maintenance. According to Murphey's law, it will fail when it is most disastrous to the user.

Probably most of the chronic failures of the classroom recorders used in education are due more to people problems than any other kind. Some careful training of school users and simple preventative maintenance will do wonders to assure the buyer that the video recorder will operate when called upon to do so.

Dust and dirt are the major causes of malfunction in the operation of these devices. The recorder and tapes should be stored in a dust-free environment. A single bit of dust on the tape surface will raise the head from the tape causing a loss of a number of scanning lines and a definite disruption in the viewed picture.

Environmental extremes are a definite enemy of video tape recorder operation. A tape that is very cold or very warm will not play back satisfactorily. Video tape will work best if it can acclimatize itself for at least two hours at room temperature.

Environmental extremes are hard on machines too. Cold bearings will bind and cold lubricants will drag machine speed to a lower than optimum value. Heat changes characteristics of heads and electronic circuits. Machines should also be left to attain room temperature before being used.

Video heads, audio heads, and tape guides should be cleaned periodically with the manufacturer's approved solvent. Avoid getting solvent on the tape; it will destroy it, and the excess residue from the tape will eventually return to other tapes causing the recorder to function poorly.

Be sure that all components of the video and distribution systems are working well before you are ready to use the system.

Many cases of system failure can be traced to poor house voltage. Operators should be sure that the AC source supplying the machine is adequate for the purpose. Long extension cords should be avoided. Too low a voltage can sometimes be as damaging as too high a voltage.

If your video tape recorder develops problems, it should be corrected by an experienced and knowledgeable technician. These might be available at the school media center, the local dealer who sold the machine, or a manufacturer's service station. The availability of service should be determined before the need reaches crisis proportion.

Above all, if the recorder is operating well and all normal cleaning and general care are being carried out, there is no reason to adjust the internal mechanism. With proper care, video tape recorders can be a solid addition to any teaching program.

Created by EPIE — Educational Products Information Exchange Institute — a nonprofit independent evaluator of educational materials. For school membership information, write EPIE, 386 Park Avenue South, New York, N. Y. 10016.

CET Newsletter

September 1971

Center for Educational Technology — State of New Jersey Department of Education
Office of Program Development — Division of Research Planning and Evaluation — Trenton, N.J. 08625

Director: Joseph L. DiStefano

AUDIO CASSETTE RECORDERS AND CASSETTES PURCHASE AND MAINTENANCE

There is an interest in the growing use of classroom recording devices in New Jersey schools. This growth indicates that every school administrator throughout the state will eventually be called upon to make decisions regarding the purchase of such equipment.

This newsletter is devoted to information which will assist you in prudent purchasing of classroom cassette tape recorders.

The content of this newsletter has been prepared for the State Department by the Educational Products Information Exchange (EPIE) Institute, a nonprofit "consumers' union" to which many New Jersey schools belong. Prior to publication the Paramus Public Schools assisted in evaluating the usefulness of the content to school decision-makers.

We hope results of this joint effort will, indeed, prove useful to you, as you decide about the use of cassette recording devices in your program. We would appreciate any reactions you might have to the type of information offered through the Center for Educational Technology.

PURCHASING AN AUDIO CASSETTE RECORDER

The audio cassette is fast taking over the general audio requirements of schools from the traditional reel-to-reel type machines. Nationally, industry sales were up 70 percent in 1970.

Cassette recorders are marketed in a variety of shapes and sizes with prices to meet any school budget. The optional accessories available will meet about all special requirements of any user. Almost all units are manufactured primarily for the general consumer market but most are completely suitable for school use.

The vast majority of the portable play/recorder units are imported. Some are sold under one brand name exclusively, such as Norelco. Others are sold under a variety of U.S. brand names, for instance both Rheem-Caliphone and Sharp are selling what appear to be identical machines. By familiarizing himself

with these basic units, a careful buyer can often save money by shopping for the lowest price on a particular machine, regardless of the brand name under which the machine might be sold.

The average portable play/record cassette recorder weights about four pounds, makes use of four or five batteries, usually of the C type. The average unit is pushbutton operated and costs about $55. Some are much less, but watch out!

When purchasing a cassette recorder, the user should bear in mind that, while the reproduction quality of these recorders is usually quite adequate, it is not as good as one would expect with reel-to-reel recorders — its frequency response is lower.

If the machine is to be used at a fixed location, such as in a library media center, the user should look for a unit that is AC operable. While most units offer an adapter as an accessory, units with built-in AC capability are more desireable for school use.

Easy portability of units is important too. Users should be sure that the case is large enough to contain all of the various accessories such as AC adapters, extra cassettes, microphones, etc., that should accompany the recorder when in use. The case should be adequate to protect the machine in heavy use.

More high quality cassette recorders are now becoming available. Prices range from about $100 for a unit designed to be a home music system component, to in excess of $1,000 for professional units designed for the rugged, uncompromising use in recording studios. A number of suppliers of school audio-visual equipment now make cassette recorders available for classroom use with larger amplifiers, quality speakers, and AC operated mechanics. These units are quite good and are recommended over adapted portable units for use in study carrels and classrooms.

In purchasing cassette recorders, buyers are reminded that low price should not be the ultimate criterion. Standardizing on a good quality machine may be the least expensive route in the long run (e.g. replacing parts, servicing, etc.). The setting in which the machine is to be used, the demand that is to be put on the machine, and the skill of the user should be the greatest considerations. Availability of service, ability to deliver, and the general reliability of the seller should also be considered.

SOME TIPS ON CASSETTES

As more cassette recorders are sold, more manufacturers of audio tapes are packaging them in cassettes. The number of brands of cassette tapes is amazing, but, once again, don't be fooled by "low, low prices".

Some cassettes are closed with a number of small screws, (these can be opened to correct tape fouling) others have the halves permanently sealed. The sealed cassettes are alleged by their manufacturers to be of consistently better quality with less problems. A forthcoming study by the EPIE Institute should throw some important light on which type is better for school use.

Buyers should specify cassettes with lubricated tapes and freely rotating tape guides. The lightest bit of friction and uneven drag can so distort the playback or recording as to make it unuseable.

Some of the cheaper cassettes make use of a foam rubber block behind the tape to insure head—tape contact. This is easy to spot; watch for it. The better cassettes use a felt pressure pad and a phosphor bronze spring which provides a metal shield to protect the tape from stray magnetic fields.

Large volume users of different makes of cassettes report that there is quite an inconsistency in length of recording times. While this is not a problem in general use, it can become one where the user is making a large number of duplicates on high speed equipment. Use of cassettes provided by a single major manufacturer can help minimize this problem.

Proper care of cassettes is imperative. They should be kept in their containers when not in use. Remember, cassettes are part of the machine they are used in. Care should be taken not to introduce dirt into the moving hubs or other areas of the cassette. Cassettes *can* be damaged by heat. Keeping a cassette in a storage container prevents accidental tangling should the tape be pulled from the front of it. Broken or tangled cassette tapes are difficult, if not impossible, to repair properly.

MAINTAINING YOUR RECORDER

Audio cassette recorders are small, relatively inexpensive, and versatile. But, as with any audio–visial equipment, their usefulness over time depends on how well they are maintained.

Like their big brothers, the reel–to–reel machines, cassette recorders require a general cleaning weekly, or even daily if they are in heavy, constant use. Heads, capstan, and idler wheels should be thoroughly cleaned with an appropriate solvent. The cassette *well* should be cleaned of all dust and dirt with a soft brush.

Portable recorders batteries should be checked often. It should be noted that cassettes in which friction is not adequately taken care of will result in the need for constantly fresh batteries. All batteries should be removed at the end of the school year and new ones purchased for the coming year.

Most cassette recorders make use of plastic belts to drive takeup and rewind spindles. These belts seem to have a *shelf life* and the user should be prepared to replace them periodically regardless of how often the machine has been used.

Other points to check periodically are cords on microphones and AC adapters where they enter plugs or the components themselves. The light cable used in these units is prone to break under hard wear.

When new recorders are purchased they should be checked by a competent technician to assure good head contact and alignment. This has been a chronic problem with new recorders, as reported to EPIE. If a competent technician is not available, the school should demand that the dealer make these adjustments.

WHAT'S NEW

More and more producers of sound filmstrips are turning to the use of cassettes for the accompanying sound. Control signals can be placed on second tracks of the tape for controlling recorders. Manufacturers of projection equipment have also developed machines with built–in cassettes recorders to record and play narratives accompanying filmstrips.

For local production efforts, schools can now purchase a number of machines that have built–in slide synchronizing circuitry which will control any of the electrically advanced slide projectors.

A great number of audio visual teaching machine type units making use of cassettes for audio and control functions are now in prototype stages of development. At least one of these units uses computer data bits for control and will rapidly advance to branch the learner should his reactions to machine questions dictate such.

Meanwhile, back at local distributors, better and better cassette recorders are becoming available; cassettes themselves are improving too. Premium cassettes offer advanced construction and better recording media. The use of different backings and anti–static formulations have made the tape easier to work with, allowing some degree of local repair and/or editing capability.

New techniques of duplication are bringing more and more pre–recorded tapes to the market as well. Good music and narratives are available on cassettes. The use of such pre–recorded items will become more prevalent in schools in years to come.

NECESSARY ACCESORIES FOR THE CASSETTE RECORDER

AC adaptor
carrying case
head phones
ear plugs*
extension speakers
cassette carrying case
foot pedal

*For health reasons ear plugs should not be used by more than one person

CLASSROOM CASSETTE RECORDERS - A NEW BREED

Until recently, the cassette recorder was considered a portable, versatile recording device, but one that was not especially rugged or useful when placed in a large group setting, such as a classroom. EPIE's 1969 report on Cassette recorders indicated that not only did no machines exist that were designed for this market, but that there was also little interest in the development of such units. In the past 18 months the picture has changed. At present at least six manufacturers offer cassette units for large group use.

The general features of this new family of recorders reflect the demands of the educational market. They are more ruggedly constructed and come installed in a stout case to protect them in transit from room to room. Far from being the ultra portable units so commonly seen, the classroom cassette recorder weighs on the average of 15 pounds and is packaged in a 12 inch by 12 inch case about 7 inches deep.

The true classroom cassette recorder is designed to be operated on normal line power and is equipped with the three wire power cord necessary to assure safety of operation in schools. Motors and circuitry generally are newly designed components made for use in classroom machines.

Electronic performance is improved over the portable machine. Audio power is generally 10 watts RMS and the frequency response reaches from 50 Hz to 10 kHz. (amplifier electronics are capable of higher figures, but limitations in the recording process create the operating limitations of these machines.) Larger amplifiers coupled to larger speakers provide sound that is audible throughout a classroom space. All of the classroom units provide for the connection of a remote speaker.

Manufacturers have provided these units with large, sturdy cases with plenty of room for storage of cassettes, microphones, and other components. The extra space also makes it possible for the machines to be equipped with standard telephone jacks for convenience in interconnection of a variety of other classroom devices. Auxillary inputs, provision for signal mixing, PA features and other conveniences that make classroom use easier are also available on these recorders.

CLASSROOM CASSETTE RECORDERS

MANUFACTURER	MODEL	AUDIO OUTPUT	FREQUENCY RESPONSE	SIZE	WEIGHT	CASE	STORAGE	POWER REQUIRED
AVID CORP.	20/50	20 Watts RMS	50 – 10kHz	12½" x 13" x 7"	15 Lbs.	Wood Vinyl Covered	In case	70 Watts
Wollensak	2520	9 Watts RMS	50 – 10kHz	12¾" x 14 3/8" x 6½"	18 Lbs.	Molded Plastic	In case	50 Watts
Audiotronics	130	9 Watts RMS	40 – 8500Hz	8" x 4" Oval	15 Lbs.	Wood Vinyl Covered	In lid	35 Watts
Sony	180	5 Watts RMS	50 – 12kHz	13" x 11½" x 4½"	11 Lbs.	Aluminum and Plastic	None	30 Watts
Rheem Califone	CR-5	20 Watts Peak Music	50 – 10kHz	15" x 10" x 7¼"	16 Lbs.	Wood Vinyl Covered	In case	50 Watts
Bell & Howell	405	1½ Watts RMS	50 – 10kHz	12 3/8' x 9" x 5¾"	8¾ Lbs.	Molded Plastic	In case	28 Watts

NOTES (1) All Units provide for extension speakers
(2) Microphone uses mini plug
(3) All speakers nominally 6" x 8"
(4) All use standard telephone jacks except Sony which uses mini plug

Created by EPIE – Educational Products Information Exchange Institute – a nonprofit independent evaluator of educational materials. For school membership information, write EPIE, 386 Park Avenue South, New York, N. Y. 10016.

CET

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December 1971

Center for Educational Technology — State of New Jersey Department of Education
Office of Program Development—Division of Research Planning and Evaluation—Trenton, N.J. 08625

Director: Joseph L. DiStefano

TWO-WAY CABLE TV -- ITS IMPACT ON EDUCATION

"I have seen a curious child," Wordsworth said, "who dwelt upon a tract of inland ground, applying to his ear the convolutions of a smooth-lipped shell;

"To which, in silence hushed, his very soul listened intensely; and his countenance soon brightened with joy;

"For from within were heard murmurings, whereby the monitor expressed mysterious union with its native sea."

The search for that mysterious union called communication--Norbert Wiener called it the feedback loop--is a part of man's basic nature. Create a medium that delivers a message and man will instinctively wish to talk back to the source.

The process can be as simple as the "Letters to the Editor" column in the daily newspaper. And it can be as complex as the proposal for modern broadband electronic communication, commonly known as Two-way TV.

This issue of your CET newsletter is devoted to an examination of 2-way, cable TV, primarily via the nation's growing cable television distribution system, and its possible impact on the world of education.

In 1949, almost simultaneously, enterprising farmers in mountainous sections of Pennsylvania and Oregon built hilltop TV antennae to pick up hard-to-get signals, and charged their neighbors a fee to tap into their towers.

This was the actual beginning of what is known as CATV, formerly short for Community Antenna Television. Now, befitting CATV's entry into more urbanized areas, it stands simply for "cable TV."

In its early days, cable TV was accepted by conventional TV stations because it extended their signals to new viewers, increasing TV audiences.

Later, cable companies began to import signals from stations in more distant cities, a practice which cut down the potential audience for the local station.

As a result, CATV has become a controversial industry. Government lobbying by broadcasters, who now see CATV as competition, and copyright holders, who seek royalty payments for CATV programs, has succeeded in freezing importation of distant signals into the nation's Top 100 TV markets.

CATV growth has been maintained at the annual rate of 18-to-25%, but it has been held back by government edict, pending the outcome of disputes among vested interests.

Today, there are an estimated six million CATV subscribers, or roughly one out of every ten television homes.

THE FUTURE OF CATV: WHAT IT MEANS FOR EDUCATORS

According to estimates of Paul Kagan Associates, Incorporated, an investment research firm that specializes in cable television, it is likely that some $2 billion of private capital will be invested in CATV in the next 10 years.

Within a decade the number of subscribers in the United States will climb to about 20 million, or roughly one in every 3.5 households.

As these penetration levels are attained, it will become increasingly attractive, and economically more feasible, for enterpreneurs and educators to use the growing grid of cables that will crisscross the land.

Dean Burch, Chairman of the Federal Communications Commission, and the one government individual who has worked the hardest to effect a way for CATV and the TV broadcasters to integrate, told the CATV industry convention in July:

"What ultimately tips the scale in favor of cable's orderly growth are the benefits that cable can bring over and beyond the mere distribution of commercial broadcast signals.

"These supplemental benefits are . . . the key to cable's future. Not sometime in the next century, or the next decade, but starting now."

What Chairman Burch was referring to was CATV's unique ability to send a multitude of TV channels into the home, classroom or office, and receive from them a multitude of electronic responses.

In essence, it is a vision of a citywide--even nationwide--closed-circuit communications system combining all the advantages of the audio-visual package. And although it is probably too expensive to consider for widespread application any time soon, total two-way video communication has been proposed.

From another source within the FCC comes a sharper verbal sword. It is wielded by Dr. Robert Hilliard, chief of the Commission's Educational Broadcast branch. He feels the established educational system in this country "uses 19th century methods of communication when students are part of the 20th century communications."

Dr. Hilliard states that "by the time the child enters kindergarten, he or she has already spent more hours learning about the world in front of the television set than will be spent in a college classroom getting a bachelor's and master's degree.

Dr. Hilliard further points out that teacher-training institutions in the Soviet Union require at least six months of education in the use of technology, including television in the school. "Yet," he states, "not a single state in the U.S. requires any education in the use of educational television for teacher certification."

Despite Dr. Hilliard's harsh words, our educational system is growing increasingly aware of the potential of closed-circuit instructional TV.

And, as more cities and counties stress educational CATV in their franchising ordinances, this growing concern takes quantum leaps forward.

When Arlington, Virginia, for example, is cabled for TV (it is now considering applicants to operate the system), every floor of every public school will have a hookup to the central CATV tower, studio or computer (perhaps all three).

Educational use of CATV systems is a part of the future, because only now are governmental and educational groups learning how to apply this relatively new technology. It is clear, however, that no new CATV project will go forth without local educators being directly involved in its planning.

TWO-WAY CATV: HOW IT WORKS AND WHO IS BEHIND IT

There have been five major experiments in two-way CATV in 1971.

1. TeleCable, a subsidiary of Landmark Communications of Norfolk, Virginia, is experimenting in Overland Park, a suburb of Kansas City. Equipment used includes TV sets and cameras made by Sony, 2-way CATV amplifiers made by Electronic Industrial Engineering (EIE), which is controlled by Zenith, and response terminals made by Vicom Manufacturing, of Dexter, Michigan.

2. Video Information Systems, which is 80% owned by Cable Information Systems, a publicly-held CATV operator, recently completed successful tests in New York City with Sterling Communications, A CATV partner of Time Incorporated.

3. TelePrompTer, the largest company in CATV with over 600,000 subscribers, has completed two-way tests in Los Gatos, California. Now it plans to install a working two-way facility in El Segundo, California, using a response terminal designed by Hughes Aircraft.

4. Mitre Corporation, a McLean, Virginia research firm subsidized by federal funds, has been testing a 2-way system in Reston, Virginia. Ownership of the Reston CATV system is in the process of passing from a subsidiary of Continental Telephone to Kinney Services, a New York Stock Exchange conglomerate.

5. EIE is installing a two-way system in Orlando, Florida for American TV and Communications, the nation's third largest CATV company. ATC's technical director, Edward Callahan, was formerly employed by IBM to do research on the home interactive computer terminal of the future.

*

The TeleCable experiments have had particular merit for those interested in CATV applications in education.

The company arranged for school-to-home communication to enable a 17-year old with a brain tumor to "attend" classes. The student has had several operations and hasn't been to regular school in three years.

His only education of late had come from tutoring. By connecting a small TV camera in his room to the local CATV system, it was possible for the teacher and the student to engage in two-way audio and video communication.

In addition, the student's mother has watched a fashion show and purchased a dress direct from the store (Sears) by activating her home response unit.

The system is also being used for polling, burglar and fire alarm experiments, and information retrieval.

The Mitre experiment is somewhat different. It does not involve two-way video, but rather offers a viewer an opportunity to select stop-action frames from a central computer. Instead of an expensive home terminal unit, the viewer currently employs a conventional telephone line and his push-button telephone set for requesting specific frames.

In this experiment the viewer can enter figures on the telephone and use the system as a mathematical calculator, reading out answers on the TV screen. The "menu" of services available includes two courses in computer-aided instruction in mathematics.

COST: A MAJOR HURDLE THAT MUST BE OVERCOME

Ways to subsidize the expensive hardware and software (programming) for a true 2-way television link are as yet unclear.

Cable Information Systems believes it is commercially feasible now, if commercial advertisers, pay-TV subscribers and cable operators cooperate. The company is expected to test its notion on its own proposed system in South Orange, New Jersey.

Some of the problems are presented by Mitre Corporation's William Mason in a recent major article on two-way TV in McGraw-Hill's Electronics Magazine (9/27/71):

"The interactive TV idea unfortunately will not gain widespread appeal unless a great many interesting courses and entertaining games courses become available. And while it is not the cable operator's direct responsibility to develop these programs, it would certainly serve their purpose to invest in the production of such interactive courses produced by others.

"Naturally local, state, and federal money will also become available for producing educational material for schools, home education, vocational training and so on, and some private foundations are already supporting the development of new ideas that cable systems could incorporate."

NEW JERSEY ONE OF THREE STATES PRESSING REGULATION OF CATV

Local government has long held franchising power over CATV, and in recent years the FCC has exercised increasing federal control.

More recently, state governments have stepped into the picture. New Jersey, New York and Illinois have all declared their right to help shape the future of this fledgling industry.

Last June, under Resolution 2041, the State of New Jersey established the CATV Study Commission to hold hearings. The group is headed by Bergen County Legislator Harold C. Hollenbeck.

Like New York, New Jersey has declared a one-year moratorium on the award of new CATV franchises by municipalities and counties. States in which CATV is already formally regulated by state government are Vermont, Rhode Island, Connecticut and Nevada.

MAJOR CATV CORPORATIONS OPERATING IN NEW JERSEY

Columbia Cable Systems, Incorporated	- Robert Rosencrans President	- 49 Riverside Avenue Westport, Connecticut 06880
Communications Properties	- Jack Crosby President	- 1002 Capital National Bank Building Austin, Texas 78701
Tele-Communications Incorporated	- Robert Magness President	- Box 10727 University Park Station Denver, Colorado 80210
TelePrompTer Corporation	- H.J. Schlafly President	- 50 West 44 Street New York, New York 10036
Vikoa Corporation	- Charles Hermanoski President	- 400 Ninth Street Hoboken, New Jersey 07030
Cable Information Systems	- Peter Nisselson President	- 230 Park Avenue New York, New York 10017

FOR FURTHER INFORMATION:

Read "Cable TV--Protecting Its Future in Education" in the November 1971 issue of Interpretation, An Ocassional Paper, published by the Association for Supervision and Curriculum Development, NEA, 1201 16th Street, N.W., Washington, D.C. 20036; or call: CET, 292-7141.

This report was prepared exclusively for the Center for Educational Technology by Paul Kagan Associates, Incorporated,, Box 2732, New York, New York 10001. PKA publishes three newsletters on communications: CABLECAST, DATACAST and COMMUNICATIONS INVESTOR.

CET

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January 1972

Center for Educational Technology — State of New Jersey Department of Education
Office of Program Development — Division of Research Planning and Evaluation — Trenton, N.J. 08625

Director: Joseph L. DiStefano

A lot of hard to come by tax dollars can be wasted by schools when they fail to become intelligent consumers of educational materials and equipment. Schools are frequently too accepting of products recommended by salesmen who haven't taken the time to learn what the school really needs in the way of media and equipment. Of course, a good salesman can be a real help, but the more the educational consumer knows, the more use he can make of the truly knowledgeable salesman or distributor.

This issue of the *CET Newsletter* is aimed at making you, the educational consumer, a bit more aware of how to get more out of your media-AV budget before, and after, you make purchases for your school. It even tells you how to avoid the high cost and yet effect the benefits of a rather expensive media reproduction system.

We would enjoy hearing whether these suggestions and bits of information are useful to you.

MEDIA AND AV EQUIPMENT: HINTS AND IDEAS

HUMAN ENGINEERING

Most school audio visual equipment is purchased only after competitive bidding on a fairly complex set of specifications. As competition for the school dollar increases and our communications technology expands, there are more and more options open to most educators buying this equipment. One of the prime factors not specified in most purchasing contracts is some degree of human engineering for AV equipment.

Human engineering is that simple thoughtfulness that makes a piece of equipment not only a technical masterpiece but a practical, versatile, easy to use tool as well. For example, what happened to the good old fashioned heavy duty switches that we used to find on projection equipment—solid, enduring and easy to get your hand around? And then there are threading lights that used to be found on 16mm projectors that could be used to follow a lesson plan, or if a loop was lost to see to re-thread the projector

quickly and easily (without turning on the room lights and losing that precious quiet mood that subdued lighting brings). Where is the 16mm projector movement that you can get your fingers into to thread by hand if you have a priceless original or brittle old print to show? Most movements available today for manual threading are the close tolerance auto thread mechanics with guides and covers removed.

Put up a tripod screen lately? In all the years that these monsters have been around, it appears that a total of five minutes has been spent on human engineering. Dr. Ray Wyman in Amherst, Mass. reported last year at the AECT convention in Philadelphia that the tripod screen was apparently the "least safe of all audio visual equipment". The thing will pop open in an elevator on the way to a meeting at rush hour, but won't open when you get there to set it up. The feet are always coming off; one leg is always in the way or ready to fall off the platform and the latches are either tight or loose—never just right. You almost need another tripod to hold up your first tripod! Let's hope that someday someone will come up with a tripod screen not to be feared.

And how about the cassette recorders? Those little portable jobs that cost next to nothing on bid? Sure enough, they are easily operated with lever or pushbutton, but how about battery placement? Always batteries are inserted in the back where they can be most easily jogged loose when the machine is set down hard or carried roughly. And cords on battery eliminator transformers. . . wire so thin and brittle that it breaks off at the plug or transformer after just a few hours of use. Would it cost that much for larger wire and strain relief? How about batteries inserted under the speaker panel?

Things have gotten better with the slide projection equipment, but it still isn't easy to roll a projector over on its back, still hot, to change a burned out lamp. Any chance that lamps can be installed from the top or rear? They are getting small enough. How about lamp changers in slide projectors like those now available in better overhead projectors?

Human engineering could be applied to small things, too. Like three wire AC cords that all educational bids demand and few older school buildings can use. How about one that will retract when there isn't any contact for it to enter? Squeezing the plug could lock it in place to insert it in a three wire receptacle. The end result would be safer equipment because the ground would be grounded whenever possible and wouldn't be cut off when the grounding receptacle wasn't available.

The technology is here; it can project great images and do good things in classrooms. If we, the educational consumers, demand a little human engineering, audio visual equipment might get easier to use.

PROJECTION LENSES

One of the factors that educators think least about when purchasing any type of projection equipment, from the simplest to the most complex, is the projection lens itself. If the usual classrooms weren't an "average" size, and if *some* AV equipment salesmen didn't look out for the better interests of their customers, the result in most projection situations would be worse than it is.

A good projection situation is one in which the projected image fills a screen large enough to be seen in the rear of the room. Generally speaking, the projected frame should be no less than one sixth of the distance to the furthest viewer. A second factor affecting the projection situation is the location of the projection equipment. Obviously, overhead projectors should be in the front of the room where they can be manipulated by the teacher. Other types of projection equipment should be in the rear of the room. Projection equipment located halfway back in the audience is a sign of poor planning and results in noise and visual distraction in the audience. Proper selection of optics can allow proper placement of projection equipment and optimum sized images.

A short lens will result in a larger image than a long lens at the same distance from the screen.

Lens focal length is generally expressed in inches on most projection equipment. Thus, a three inch lens will have a larger image than a five inch lens at the same projection distance. If a multiple projection situation is the case, lenses can be obtained that will match the image sizes for a variety of projectors in a classroom. Most audio visual textbooks and the NAVA Audiovisual Equipment Guide have handy tables, helpful in lens selection.

PROJECTION LAMPS

There are lots of changes in the field of projection lamps now showing up in new projection equipment. It has been disconcerting to have every new model of a projector with a new lamp, but the improvements in picture brilliance are worth the aggravation of having to stock a multitude of lamps.

New Quartz Halogen or Quartz Iodine lamps are smaller and last longer. They retain their brilliance without degrading until they burn out completely. They are physically smaller and more easily cooled resulting in quieter projectors. Many have built-in high efficiency reflectors that assist in getting more light on the screen. To assure long life, the lamps should be carefully changed and the user should avoid finger-printing the lamp during installation. This can shorten the lamp life appreciably.

BLACK AND WHITE SLIDES

Color tells a story, but, then again, black and white messages have a tale to tell too. In addition, they are easily done and, in the case of art work, can be colored with gelatin or felt tipped pen.

For words or line copy, try copying your material on High Contrast copy film in the 35mm format. The result is white printing on a black background. Selectric typewriters or other print can be used for quick originals. Just be sure to copy close enough or the projected message will be too small. These slides are as easily colored as application of a felt tipped pen to the emulsion side of the film.

For black and white half-tones, a black and white negative can be placed on a light box and copied with the same high contrast materials. Short development in a paper developer, such as Kodak Dektol or equivalent, will result in a passable, high quality black and white half-tone positive slide.

A changing bag, developing tank, and a low cost, single lens reflex camera are about all that is needed to make black and white slides. See your local photographic shop for help.

A DIAZO SYSTEM

Few deny the beauty of diazo transparencies. Many decry the cost of equipment to make them. Well, it is true that fancy equipment is available, but a total of $50.00 can build a diazo system. Fancy? No, but practical it will be.

To expose diazo materials, you will need a fairly strong light source that is heavy in ultra violet light. A bank of eight to ten UV fluorescent lamps about 2½" from a glass plate will do the trick. These can be mounted in a wood box with the glass plate on top, just like a photographic printer. A weighted board the size of the glass with a sponge backing will hold the materials flat for exposure length. Cost, about $40.00.

To develop the transparencies, use a gallon wide mouth jar available in the school cafeteria. A sponge soaked in ammonia can be placed in the bottom. Diazo is, of course, developed in ammonia fumes.

COOLING THE KODAK CAROUSEL

If you haven't heard, Kodak no longer recommends that you cool the Carousel projector with the fan. Just turn off the whole thing all at once. It seems that the optics cooled unevenly when blown, and then cracked. Then again, what about lamp cooling? Any comment from the field?

PUBLICATIONS AND OTHER SOURCES OF MEDIA INFORMATION

Screen Educators' Society, Inc.
3518 North Leavitt
Chicago, Illinois 60618
Educational membership organization to promote more effective film teaching in the classroom.

Publication: *See* (6 a year; $5/year)

Media and Methods
North American Publishing Company
134 North 13th Street
Philadelphia, Pennsylvania 19107
Publication involves many articles and reviews covering the broad spectrum of media and methods of presentation.

Nine times a year (September-May); $7 / year or $12 / 2 years

Educational Technology Publications, Inc.
140 Sylvan Avenue
Englewood Cliffs, N.J. 07632
Articles, letters, reviews, reports, conference information, research series, et al pertaining to all aspects of educational technology.

Monthly; $18 / year or $32 / 2 years

Educational Screen and Audiovisual Guide
Educational Screen, Inc.
434 South Wabash Avenue
Chicago, Illinois 60605
Devoted to audiovisual education; concerned primarily with projected teaching materials.

Monthly; $5/year

Educational Television Magazine
C.S. Tepfer Publishing Company, Inc.
607 Main Street
Ridgefield, Connecticut 06877
Articles and columns on how to use television as an effective tool for teaching, training and education on all levels of education.

Monthly; $8/year

Film News
Film News Company
250 West 57th Street
New York, New York 10019
Reviews of 16 mm and 8 mm films, filmstrips, educational recordings, books, library film programs, educational television; audiovisual equipment news; articles on audiovisual uses.

6 a year; $6/year

New Jersey Audiovisual Newsletter
Cleveland Schools
Newark, New Jersey 07103
Att: Dr. Herbert E. Scuorzo

Monthly; $6/year

New Jersey Media Association
827 Madison Avenue
Plainfield, New Jersey
Att: Elizabeth Morse
Available only to members. Published by the New Jersey Library Association.

Quarterly; $10

Association for Educational Communications and Technology (AECT)
1201 Sixteenth Street, N.W.
Washington, D.C. 20036
A membership organization affiliated with NEA; concerned with educational use of all media.

Publication: *Audiovisual Instruction* (11 a year; incl in membership fee of $20/year, OR $12/year)

Educational Film Library Association, Inc. (EFLA)
17 West 60th Street
New York, New York 10023
An educational membership organization to evaluate films and other AV materials and to promote use of quality films in schools.

Publication: *Sight lines* (Bi-monthly; incl in membership fee of $10 to $50/year OR $8/year)

Educational Products Information Exchange Institute (EPIE)
386 Park Avenue South
New York, New York 10016
Educational membership organization devoted to improving learning by improving selection of tools for learning and teaching. Deals with hardware and software.

Publication: *EPIE Report* (9 a year; incl in school membership fee of $35/year)

National Audio-Visual Association, Inc. (NAVA)
3150 Spring Street
Fairfax, Virginia 22030
Industry membership organization to increase use of audiovisual communications at all levels and in all walks of life.

Publication: *Directory of Audio-Visual Equipment* (Annual; $8.50)

New Jersey Audio Visual Council
Box 52
Parsippany, New Jersey 07054
Membership of educators and dealers to promote effective communications in New Jersey public schools.

Publication: *Communicator* (Quarterly; N/C)

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Director: Joseph L. DiStefano

8mm FILM AND PROJECTORS

THE COMPATABILITY BUGABOO

Whenever we talk about 8mm films, questions are raised about incompatibility – to the extent that some schools have avoided even investigating the medium, which is a pity. Things are not really that bad.

The questions are:

Standard 8 versus Super 8
Silent versus Sound
Cartridge versus Reel-to-reel
Optical Sound versus Magnetic Sound

The first question is answering itself; super 8 is replacing standard 8 in comparatively rapid order. The super 8 picture is much bigger and brighter; it is so good that film producers are increasingly willing to make their films available on super 8mm film, so that better and better teaching materials are becoming available in that format. But many reel-to-reel projectors are equipped to play either, simply by the push of a button, so that you need not discard standard 8 films entirely when you move to super 8.

Then we come to silent versus sound. Certainly silent projectors cost less, and silent film permits teacher presentation at the proper level and pace for the viewers. Silent film is still most practical, too, for locally made films. Sound cameras can be an expensive proposition. But most sound projectors will also run silent film, so it is not necessary to buy silent projectors to maintain the advantages that silent film gives.

The real questions of compatibility arise when we decide between cartridge and reel-to-reel projectors, and between optical and magnetic sound recording. Almost every manufacturer who makes a cartridge machine makes a cartridge that fits only his machine. That is a shame, and perhaps consumer pressure will bring about some standardization one day. In the meantime, all is far from lost. Film distributors stock their films in a particular style of cartridge or on reels, but given a couple of week's warning they will supply any film they have in a cartridge or on a reel to fit your projector, at no extra cost. And you can, if you have a projector which runs Kodak cartridges, insert any film you want in a cartridge yourself. By next fall, Kodak will have a cartridge projector that operates with a magnetic sound track for super 8mm film. It will use the same cartridge as that now used

for silent super 8, and will run either silent or sound cartridges.

Sound film may have the sound recorded on a magnetic strip at the edge of the film or optically on the film. The methods of recovering the sound, of course, are different. A few reel-to-reel projectors are equipped to handle either, but most handle only magnetic sound, and most producers of reel-to-reel sound film use magnetic sound recording techniques. It is when we get to cartridges that the choice between optical and magnetic sound recording must be faced; here is real incompatibility. Your choice of sound films in cartridges must be governed by the projector you have. Technicolor, Inc., makes sound cartridge projectors that use optical sound films, and four or five other producers (not yet including Eastman Kodak Company, as mentioned above) make ones that use magnetic sound recording – in their own style of cartridge. They can be "recartridged," however, as mentioned earlier, and the machines will run silent as well as sound cartridges.

Finally, we come to one specialized, but very important, item of software and its incompatibility situation – the single-concept silent 8mm film loop. One of the pluses of loops is their cyclical nature – they are short and punchy, and can easily be shown over and over, for clarity and emphasis. True loops, which run and rerun continuously with no rewinding or any other manipulation required, can only be run in Technicolor projectors; the same film can be inserted in other cartridges, and, in most cases it will be rapidly and automatically rewound at the end for immediate rerunning! But, it will not keep going continuously, and someone must make a move to repeat it each time. Even so, you can use silent loop material – and probably have your students do so individually, too – even if you haven't a Technicolor loop projector. Your trade-off may be a matter of price; a less expensively packaged film may do the job you want done as well as the continuous loop does, or there may even be comparable continuous loops available from different suppliers at different prices. It is well to shop around.

THE MEDIUM

The 1960's saw amazing developments in the audiovisual field. In the late 1950's and the early 1960's federal funds made it possible to purchase large amounts of hardware for use in schools; by the middle 1960's the climate was right for the development of a new film standard to provide an additional resource for schools. Super 8mm has developed into that resource, and has proved to be both useful and useable.

Regular or standard 8mm film had a number of drawbacks. Because cameras lacked versatility and frame size was so very small, it was strictly an "amateur" medium. When films made on 16mm or 35mm film were reduced to the standard 8 format, there was some very apparent loss in image area. Image brightness was limited; small, dim images lacking resolution were generally the rule with these "home movies."

Super 8mm film provides an image size nearly 35 percent larger than regular 8. In addition, new films handily packaged in cartridges that drop into the camera make for easy use of super 8 for even the most inept of people. Using new lenses, improved in design and construction, and new projection lamps, with high output of light and minimal heat output, super 8 provides an acceptably brilliant, large image in the average room.

Many schools immediately saw the potential for production of their own instructional materials in the super 8 medium. Technicolor was the first to market a super 8 cartridge loop projector and it was possible for locally produced film to be loaded into the technicolor cartridge for use as a film loop. Other cartridge load projectors have followed. While the Technicolor projector is the only one designed to show silent loops,

the newer family of devices provide a very convenient packaging technology to allow easy use of super 8 films. It is a sad thing that compatibility of cartridges could not exist between projection systems of the various manufacturers, but that lack of a standard need not be a deterrent to effective use of this flexible medium.

As use of the medium grew, users demanded the addition of sound to their efforts. Technicolor moved into the super 8 sound area with introduction of a larger capacity loop projector using optical sound techniques. Others, such as Kodak and Fairchild, have made use of magnetic sound technologies. For the local producer, the latter is usually the better choice. Many manufacturers offer projectors that will play the magnetic sound tracks found on some commercially available films. In addition, locally produced films can be "sound striped" by the processor, and sound can be added as the film is shown on a projector equipped with a recording amplifier.

Some manufacturers have offered the user a "double system" sound recording system. A sound track is recorded on a cassette recorder connected and synchronized with the taking camera as the event being filmed is taking place. The sound on the cassette can be transferred to a sound stripe, as the film is shown, or played in the cassette recorder without reprocessing the film.

In many schools, creative teachers and students have produced great numbers of acceptable super 8 films, but the medium has never caught on as a production medium as has, for example, television with video tape. The reason for this appears to be the lack of necessary editing equipment of a sophistication necessary to produce even basic effects. In most super 8 cameras, it is impossible to roll back the cartridge to produce a lap dissolve, a simple but effective transition from one scene to another. Footage counters are non-existent; editing devices are generally light duty machines designed primarily for amateur use. In addition, few laboratories are equipped to provide more sophisticated users with the necessary special services that will enhance production in super 8 film. As a result, knowledgeable producers of "in house" materials make use of 16mm film for production, and then print down to 8mm film for distribution. This process takes advantage of the best of both worlds – the convenience of 8mm packaging and projection, and the versatility of 16mm production.

Where 8mm production does add to a curriculum is in the training of students in basic film techniques and the various artistic values necessary to become creative in the media field. While 8mm is not necessarily an amateur medium in terms of production, it is good for the beginning film maker because of the ease of operation of cartridge-load camera equipment and the low cost of film and supplies.

Super 8 has a lot of potential. Some of the new cameras, costing upwards of $500, begin to exploit this potential. New films in 100-foot lengths, facilities for dissolves and other effects to be done in the camera, and new types of projection systems which allow wider use of super 8 also make super 8 an attractive production medium. Pressure by potential users will cause laboratories to install facilities to serve the super 8 producer, and will cause equipment manufacturers to make quality accessory equipment for super 8 users, such as viewers and editors. If you are talking about local production of instructional materials, take a look at super 8. It may be better than television for your application.

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8mm Projectors

This list includes some of the 8mm projectors available for use in schools. An attempt was made to show something of the variety of projectors available. Inclusion on the list does not constitute endorsement or recommendation. Information on the list was taken from standard equipment directories.

PRODUCER	MODEL	SUPER 8 or STANDARD	SOUND	FILM CARRIAGE
Allied Impex Corporation c/o Interstate Photo Supply Corporation 168 Glen Cove Road Carle Place, N.Y. 11514	Bauer T30	Super	Magnetic; record & playback	Reel-to-reel
DuKane Corporation 103 North 11th Avenue St. Charles, Ill. 60174	28A8	Super	Optical & magnetic; record & playback	Reel-to-reel
Eastman Kodak Company 343 State Street Rochester, N.Y. 14650	Instamatic M100A	Super	Magnetic; record & playback	Reel-to-reel
	Ektagraphic MFS8	Super	Silent	Reel-to-reel
	Ektagraphic Sound 8	Convertible	Magnetic; playback	Reel-to-reel
	Ektagraphic M120	Super	Silent	Cartridge
Fairchild Camera and Instrument Corporation Fairchild Industrial Products Division 75 Mall Drive Commack, N.Y. 11725	Mark IV-S	Super	Magnetic; playback	Fairchild Endless loop Cartridge
Honeywell, Incorporated Photographic Products Division 5501 South Broadway Littleton, Colo. 80120	Elmo ST8M	Convertible	Magnetic; record & playback Optical; playback	Reel-to-reel
Jayark Instruments Corporation 10 East 49th Street New York, N.Y. 10017	Super 8 2MS	Super	Magnetic; playback	Jayark Endless loop cartridge
Karl Heitz, Incorporated 979 Third Avenue New York, N.Y. 10022	Norimat S	Super	Magnetic; record & playback on synchronized cassette	Reel-to-reel or continuous loop cartridge
MPO Videotronic Projector Corporation 222 East 44th Street New York, N.Y. 10017	Super 8 Sound	Super	Magnetic; playback	Cartridge
	(Voice Recorder model available. Accessory permits reel-to-reel as well as cartridge use.)			
Paillard, Incorporated 1900 Lower Road Linden, N.J. 07036	Bolex SM-8	Super	Magnetic; record playback & super–impose	Reel-to-reel
Technicolor, Incorporated Commercial and Educational Division 299 Kalmus Drive Costa Mesa, Calif. 92627	510 Instant Super 8 Silent	Super	Silent	Technicolor continuous loop
	1000B Portable Sound	Super	Optical; playback	Technicolor continuous loop

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Director: Joseph L. DiStefano

SPECIAL ENVIRONMENTAL EDUCATION ISSUE

NEW JERSEY STATE MASTER PLAN FOR ENVIRONMENTAL EDUCATION (EE)

New Jersey is probably in advance of any other state in Environmental Education (EE). It is appropriate that this is so, for New Jersey is also the most densely populated, highly urbanized state in the country.

It is the combination of the state's already stressed air, land and water resources and recent projections for continued population growth and industrial development which portrays New Jersey as a microcosm of a national dilemma.

In New Jersey, from the state level right down to local schools and communities, innovative educational programs--growing rapidly in number--are responding to the dilemma. A 1969 survey of New Jersey Environmental and Outdoor Education projects was conducted for the State Department of Education's Division of Research, Planning and Evaluation by the New Jersey State Council for Environmental Education and the New Jersey Association for Environmental Education. This survey revealed over 200 school districts were engaged in environmental studies. Supplementary education centers, supported by private, state and federal funds, were found to be contributing environmental curriculum materials and teachers' guides for many discipline areas and age groups. The survey also disclosed that state and private colleges were active in developing environmental science and teacher training programs. Complementing these efforts in formal education are municipal programs, citizen groups and municipal conservation commissions supported and encouraged by state administrative departments, as well as industrial research and recycling efforts.

To encourage the extension of existing and emerging activities and enlist coordinated support at all levels, New Jersey developed the first Master Plan for Environmental Education in the nation. The development of the Master Plan has elevated New Jersey as a national Environmental Education model, applauded by the United States Office of Education (USOE) and hailed in the Congressional Record. The USOE, in testimony to New Jersey's advanced role in Environmental Education, has now requested all states to develop a Master Plan and to gauge local programs seeking federal support against implementation of the Plan. Extensive federal and state support for Environmental Education has given a deepening timbre to voices of environmental concern.

FEDERAL SUPPORT FOR ENVIRONMENTAL EDUCATION

Following the passage of the Elementary and Secondary Education Act (ESEA) of 1965, federal support for Environmental Education projects was made possible through funds appropriated for USOE under Titles I, II, and III. Many of the programs in New Jersey school districts were undertaken with and continue to be supported by these federal title funds flowing through the State Department of Education.

In the Environmental Education Act (Public Law 91-516) signed by President Nixon on October 30, 1970, USOE for the first time received Congressional allocations specifically earmarked for Environmental Education. The first set of grants amounting to over $1.7 million was awarded by USOE in June 1971 to 74 projects in 32 states. For fiscal year 1972, grants expected to total $6 million will be made to projects proposed to USOE by January 28, 1972. Citizen groups, volunteer organizations working

in the environmental field, other public and private non-profit agencies, and institutions and organizations from New Jersey have submitted proposals for the three types of Environmental Education activities eligible under the Act:

Small Grants (not to exceed $10,000), for short-term activities such as workshops, seminars and conferences;

Statewide Evaluation and Dissemination, to assist statewide program development;

Pilot Projects and Demonstration Models, for activities dealing with community education, environmental education centers, personnel training, and curriculum development for formal and informal education programs.

STATE SUPPORT FOR ENVIRONMENTAL EDUCATION

The State of New Jersey has always provided extensive support to educational programs dealing with environmental problems. For the past twenty years, the State Department of Education, several state colleges and some of the school districts have developed and initiated instructional programs. A few programs, such as the Ridgewood and Livingston Public School programs became well established. Preservice and in-service education at the School of Conservation, operated by the state college system, trained thousands of students and teachers each year. County parks and museums, such as those in Monmouth, Bergen, Somerset and Morris Counties developed day programs in environmental studies. Staff from state agencies such as the Division of Forests and Parks and the Division of Fish and Game volunteered services for school talks and demonstrations. The U.S. Soil Conservation Service and Rutgers University Extension Service contributed staff and expertise to school groups.

Through the initiative of the State Department of Education, which provided over $3 million in Title III funds for environmental education projects in the State, New Jersey developed a nucleus for curriculum development, service to school youth and adults, teacher training capability and excellent means for dissemination.

In addition, the Master Plan, supported by Title III funds, envisions more materials for Environmental Education in urban settings and the strengthening and financing of existing agencies and expertise.

Now recent legislation has authorized direct state support for Environmental Education. On August 5, 1971, Governor Cahill signed into law the state's own Environmental Education Act (A-1092, Chapter 279) completing the structure of its Master Plan. With an initial appropriation of $100,000 the act provides for "...the promotion, establishment, and operation of local school district environmental education programs, the establishment and operation of a network of regional environmental education facilities and centers for the purpose of providing environmental education programs for public and nonprofit school students and teachers, for the establishment and operation of a network of Environmental Education Curriculum Research and Development Centers..."

Under the Act, the Commissioner of Education is authorized to work with the Commissioner of Environmental Protection to encourage environmental literacy in New Jersey by assisting citizens to recognize "their interdependence with and responsibility for the total environment," and to promote local elementary and secondary environmental programs. Besides such school-related activities as the strengthening of Regional Environmental Education Centers and local curriculum research and development, the Act provides support to the New Jersey Public Broadcasting Authority for program assistance in Environmental Education and endorsement of Municipal Conservation Commissions and other environmental interest groups.

The $100,000 allocated by the Act is earmarked in the following way:

a) $36,000 to support coordination of local concerned citizens' committees through Environmental Education Curriculum Research and Development Centers* funds being allocated equally among each of the centers.

b) $20,000 for general support of these Research and Development Centers ($10,000, $7,000 and $3,000 respectively).

c) $15,000 to support activities and programs of the Public Broadcasting Authority.

d) $2,000 to the New Jersey State Council for Environmental Education for the operational and administrative expenses of coordinating the Small Grant Program (described in (e) next column).

e) $27,000 for the Environmental Education Small Grant Program, created to encourage and support teachers, students and community organizations through cost-sharing grants in Environmental Education. The Program will be administered by the State Council for Environmental Education (NJSCEE) in cooperation with the Commissioner of Education. Guidelines for Preparation of Grant proposals were mailed to all local Superintendents of Schools, Secretaries of Boards of Education, County Superintendents of Schools, Administrative Principals, and Administrators of Non-Public Schools, from Deputy Commissioner Podesta's office in January 1972. Information and application forms for the program may be obtained from the New Jersey State Council for Environmental Education at Montclair State College, Upper Montclair, New Jersey 07043. Applications should be received in the Council office by March 15, 1972.

THE NEW JERSEY STATE COUNCIL FOR ENVIRONMENTAL EDUCATION

Established in 1967 as one of eight ESEA Title III projects in Environmental Education, the Council developed an evaluation instrument for Environmental Education programs, inventoried and assessed existing Environmental Education projects, prepared the State Master Plan and now is charged with responsibility for the Plan's implementation.

With a grant from USOE, State Title III funds and additional financial resources from the State's Environmental Education Act, the Council has embarked on a five-year implementation program designed to work through school districts, Environmental Education Research and Development Centers throughout the state, citizens' groups, the state legislature and administrative departments, representatives of industry and municipal officials.

The Master Plan's essential thrust is "to create in the most rapid and efficient way possible, an environmentally literate citizenry to solve existing problems and to prevent future ones." To carry out this thrust, a primary objective of the Council is the development

**The Conservation and Environmental Studies Center at Browns Mills, Stepping Stone Environmental Education Center at Branchville, and Sandy Hook Environmental Education Center.*

of *guidelines* and *multimedia curriculum materials* for elementary and secondary schools in the state. The cutting edge of a new curriculum will be the application of environmental concepts to the solution of real environmental problems. This implies a design which is action-oriented and provides alternative materials to accommodate the variety of urban, rural and local community needs throughout the state.

To achieve these and other aims, the Master Plan envisions concentrated and coordinated effort on the local level through forums and action programs and the aid of public information sources.

ENVIRONMENTAL EDUCATION RESEARCH AND DEVELOPMENT CENTERS

In its work with school officials in developing the role of education in the restoration of environmental quality, the Council is buoyed by excellent pioneering programs carried on by the three major environmental Education Research and Development Centers and the more recently established centers have been in the fore-front of curriculum development and dissemination, teacher training, demonstration and pilot programs and the innovative use of learning environments for Environmental Education in the state.

The Master Plan's focus on adult education and community action programs anticipates coordination with this strong network of centers.

LOCAL SCHOOL DISTRICT PROGRAMS

In the 1968 and 1969 State Survey of Environmental Education programs in schools, approximately one third of the public school districts in New Jersey reported Environmental Education programs of one description or another. Among those, many involved only one grade or a single discipline. The Council is conducting a new survey of both public *and* non-public schools in the state to gauge the impact on school programs of increasing interest in Environmental Education, *new multidisciplinary materials* being produced and extended funding available. Interim and final reports will be issued to all respondents and available to other interested parties.

Responses will be critical to developing an Environmental Education curriculum for New Jersey. If there are school personnel who wish more information or assistance with the Survey, the Council can be contacted directly.

OTHER ASSISTANCE IN ENVIRONMENTAL EDUCATION

Directories, Bibliographies, and Evaluation Instruments:

Detailed information on *books, films* and *teacher resources* for Environmental Education is provided in the Educational Products Information Exchange (EPIE) Institute *Report*, No. 33 / 34 and analyses of books and curricula in EPIE *Report* No. 36.

Both the elementary and secondary school issues of the October 1971 SCHOLASTIC TEACHER magazine, devoted to Environmental Education, contain an evaluation and annontated bibliography of *multimedia materials, paperbacks,* and *films*. Back issues are available from the publisher.

There is a comprehensive checklist useful in evaluating materials for Environmental Education programs. Developed by Dr. Charles Roth of the Massachusetts Audoubon Society and Dr. Edward J. Ambry, Director of the New Jersey State Council for Environmental Education, the list is available from the Council.

The checklist provides a rating scale for weighting such characteristics as *visual attractiveness, suitability to a target audience, pedagogical style, relationship to other parts of the curriculum, behavioral objectives, action components, factual reliability* and other items to help a school evaluate material appropriate to its particular needs.

In using any "rating scales" a note of caution is in order. Rating according to the checklist results in a "score" which might be misleading. For instance, two books could receive equal "scores," one because it was visually attractive (but might be inaccurate), the other because it received high marks for accuracy (but was unattractive, poorly printed or difficult to read). Therefore, EPIE recommends using the checklist to develop a profile of the material evaluated.

The Educational Resources Information Center (ERIC) at Ohio State University which is responsible for collecting, evaluating and disseminating Environmental Education materials will soon produce a directory and annotated bibliography of Environmental Education programs and materials which will include additional information on evaluation schemes.

If yours is one of the 200 or more New Jersey school districts with an Environmental Education program, an evaluation instrument entitled, *Evaluation for Environmental Education*, developed by the NJSCEE is available in both microfiche and hard copy as ERIC Document ED 033801 from Leasco Information Products, Inc., ERIC Document Reproduction Series, 4827 Rugby Avenue, Bethesda, Maryland 20014. Prices: microfiche $.65 each, and hard copy $3.29 each. This instrument focuses on planning and design, content, objective, operation, and productivity.

Environmental Subjects Digest:

Journal and magazine articles, periodicals devoted to the environment, and house organs and newsletters of environmental interest groups are legion and too numerous to list. For even the most diligent scholars, devotees and aficionados, the deluge of popular or scholarly environmental literature is too great to digest.

One organization attempting this service is the Environmental Information Center in New York City. In a bi-weekly magazine entitled, ENVIRONMENTAL INFORMATION ACCESS, the Center abstracts 11,000 publications, organized under 18 environmental categories. Subscription is available through the Center, 200 Park Avenue, Suite 303E, for $150 a year. Microfiche of full articles abstracted is also offered.

Synopsis of Environmental Problems and Programs:

For schools and colleges interested in content courses treating the full scope of environmental disruption and professional recommendations for action, there is now an excellent publication entitled, "The Environmental Problem," composed of selections from hearings on the Environmental Education Act of 1970 held before the Select Subcommittee on Education, Committee on Education and Labor, U.S. House of Representatives, chaired by Congressman John Brademas. This publication is also a stimulating reference work for administrators and legislators. In addition to technical examinations of national problems of environmental quality, there is thoughtful testimony on planning needs; international considerations; relationship to problems of social change and urban priorities; implications for science, technology, the social sciences and humanities; definition of the roles of the artist, journalist, and controllers of media; the general feasibility of ecological solutions in concert with economic reorientation; industrial responsibilities and difficulties; student activism, education programs and curriculum